



**CFOA**  
Chief Fire Officers  
Association

The professional voice of the UK Fire & Rescue Service

# Fire safety in specialized housing

DRAFT FOR PUBLIC COMMENT V4

# Foreword

This guide provides recommendations that are designed to protect an estimated three quarters of a million residents of specialized housing from fire. Its recommendations relate to various forms of sheltered housing, extra care housing, and also supported housing for people with common characteristics, such as learning disabilities and mental health problems. A common factor in the premises to which this guide applies is the ability to facilitate person-centred planning.

Sheltered housing first originated in the 1950s, when blocks of flats were first designed to accommodate “active elderly” people. It provided, and continues to provide, a safe, secure environment, in which older people can readily obtain assistance in the event of an emergency, as well as enjoying the benefits of living in a community.

Architecturally, the simplest forms of sheltered housing were indistinguishable from purpose-built general needs blocks of flats; there was no assistance available on site, nor any communal facilities, but, in an emergency, assistance could be obtained by means of a social alarm (or “Telecare”) system, incorporating pull cords and pendants, which triggered two-way speech communication with a monitoring centre. More commonly, there was an on-site warden and, with increasing prevalence, communal facilities, such as lounges, often incorporating kitchens, laundries and other facilities for residents.

Early sheltered housing was most commonly provided by local authorities. Today, much of the sheltered housing stock in England and Wales is provided by housing associations and, with increasing frequency, private sector housing providers, offering accommodation for active persons of over 55 years in age. It is not uncommon for residents to purchase long leaseholds for their flats, giving them total control over their own flats, subject only to a restriction that the leasehold can be sold only to others of the same age and activity profile.

In recent years, the demography of sheltered housing residents has changed. As life expectancy has increased, those entering sheltered housing, often at pre-retirement age, remain within the security of a sheltered housing environment into advanced age, consistent with successive Governments’ social policies that facilitate arrangements for older people who are capable of independent living, but may need an element of support and even care, to remain within their own homes. Such policies have also made sheltered housing a viable option for people who are largely capable of independent living, but might, in past times, have been accommodated in elderly persons’ homes.

At the same time as this trend, as a result of funding changes for sheltered housing, the traditional “warden” has largely disappeared. At most, a “scheme manager” or “house manager” may be present from early morning until afternoon, after which there will be no on-site support. With increasing frequency, a scheme manager may be peripatetic, having responsibility for several sheltered housing schemes. In some cases, site support may be limited to, for example, a weekly visit by a housing officer.

The demographic change in sheltered housing population has inevitably resulted in an increase in the occurrence of mobility difficulties, reduced sensory capability and cognitive difficulties, all of which bring about greater risk from fire, both in terms of the likelihood of fire and vulnerability in the event of fire.

The changes in the nature of the sheltered housing population has led to the concept of extra care housing, in which all residents still live within their own flats, so that, architecturally, the building is still akin to a purpose-built block of flats. However, in extra care housing, there is an enhanced level of support, commonly on a 24-hour basis. Nevertheless, as in the case of sheltered housing, there is no expectation that staff will be provided to evacuate residents in the event of fire. This contrasts with the circumstances of residential care homes, which are outside of the scope of this guide and in which sufficient staff are provided on a 24-hour basis to evacuate at least a section (or “sub-compartment”) of the home immediately in the event of fire anywhere in that section.

Social policies have also created a need for supported housing, enabling people with common characteristics, such as learning disabilities, to live together within the community in purpose-built, or, more commonly, converted, houses. Again, these residents are particularly vulnerable to fire, particularly in the case of those with limited mobility or who require 24-hour support. Early forms of such housing included premises, often described as “group homes”, such as NHS housing in the community for persons undergoing rehabilitation for mental health problems, and local authority houses occupied by a group of people with learning disabilities.

Today, supported housing of this nature is often provided by social housing providers. However, various models exist, some of considerable complexity. For example, the housing might be provided by a private landlord, while the care service is commissioned by the local authority and provided by an independent care provider; the difficulty of identifying responsibilities should not detract from the need for appropriate fire precautions. Some supported housing comprises premises that were previously registered care homes, but that are now deregistered, albeit still accommodating similar residents, necessitating review of fire precautions to ensure that deregistration does not bring about increased risk to residents from fire.

Most deaths from fire occur in dwellings; a disproportionate number of such deaths from fire occur in blocks of flats and multiple occupancy dwellings. Those living in specialized housing are, virtually by definition, the most vulnerable. Compliance with the Building Regulations alone is not necessarily sufficient to address the protection of vulnerable residents from fire.

The Regulatory Reform (Fire Safety) Order 2005 (“the FSO”) came into force in October 2006. It brought the common parts of specialized housing within the scope of mainstream fire safety legislation for the first time. Guidance on the FSO and its requirements has been issued in a series of guides. Specialized housing is included, among many other types of residential premises, in the HM Government guide ‘Fire safety risk assessment: sleeping accommodation’, published by the Department for Communities and Local Government (DCLG).

However, application of the FSO to general needs blocks of flats and specialized housing has proved problematic: it has led to widely varying outcomes. In some buildings, significant work to upgrade fire safety standards within the common parts has been undertaken to satisfy this legislation. In others, none has been considered necessary.

There has also been confusion over the scope of this legislation: how it relates to those who live in the flats, and, indeed, to what extent, if any, this legislation can require improvements beyond the entrance doors of flats. These are just two of the questions that tax those seeking to apply and enforce it.

Enforcing authorities are often unfamiliar with the particular issues that can be found in existing specialized housing and the status of the premises: for example, there is often confusion between the various forms of supported housing, sheltered or extra care housing and residential care homes, resulting in an inappropriate expectation that, in sheltered housing, staff will be available to evacuate residents, though this expectation may be valid in some supported housing. In addition, many of those now giving advice to housing providers also have limited experience of these issues. Of particular concern is the resulting variation in the scope and findings of the fire risk assessments carried out by the third parties on behalf of those responsible for fire safety in specialized housing.

In the case of purpose-built blocks of flats, difficulties in application of legislation, particularly the FSO, were largely solved in 2011 by production of guidance by the Local Government Association<sup>1</sup>. That guidance is now endorsed by Government, CFA and housing stakeholders as the appropriate guidance to apply in relation to purpose-built blocks of flats, not only for the purpose of the FSO but also to ensure the safety of residents within their own flats, which is outside the scope of the FSO. As such, for purpose-built blocks of flats, the Local Government Association guide supersedes the guidance in the DCLG guide on fire safety risk assessment in sleeping accommodation. The Local Government Association guide includes recommendations on fire safety in sheltered housing.

This current guide is intended as a “sister” guide to the Local Government Association guide. Although there is some overlap between the two guides, it is intended that, for sheltered housing, this guide supersedes the Local Government Association guide, though nothing in this guide conflicts with the more limited guidance on sheltered housing within the Local Government Association guide.

This guide is intended to meet the needs of housing providers and enforcing authorities for guidance tailored to specialized housing. It is intended to assist Responsible Persons to comply with the FSO and Housing Act 2004. Accordingly, it is expected that enforcing authorities for that legislation will have regard to this guide. However, the recommendations in this guide go beyond the scope of legislation, in that they also provide guidance on protection of vulnerable residents from fire within their own private accommodation.

It is also expected that housing providers will take account of this guidance when determining the requirements of legislation and good practice in specialized housing. In particular, any proposal to avoid the scope of this guidance, simply by adopting a different name for housing that, by the nature of its objectives and intended residents, can equally be described as specialized housing, sheltered housing, etc, would be subject to strong disapproval and open to robust challenge.

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<sup>1</sup> Fire Safety in Purpose-Built Blocks of Flats. Local Government Group, July 2011.

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Fire Brigades Union	FBU
Hampshire Fire and Rescue Service	
Home Group	
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Hyde Housing Association	
Local Government Association	LGA
London Councils	
London Fire Brigade	LFB
National Association for Safety and Health in Care Services	NASHiCS
National Social Housing Fire Strategy Group	NSHFSG
Royal Mencap Society	Mencap
Specialist Information Training Resource Agency for Single Person Housing	SITRA
TSA (formerly known as Telecare Services Association)	
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# Introduction

## 1. Responsibility for this guide

- 1.1 The guidance in this document is the responsibility of the CFA Higher Risk Accommodation Task Group, and has been subject to an extensive consultation exercise. The final content has received input from representative groups from the housing sector and the fire safety community, including fire and rescue services, as well as the Home Office and the Department for Communities and Local Government.

## 2. Purpose of guide

- 2.1 This document is a guide to ensuring adequate fire safety in existing specialized housing (as defined in this guide, regardless of how it might be described by the housing provider, which is not the relevant factor in determining the applicability of this guide). Although this guide is concerned with fire safety in specialized housing for multiple residents, much of the person-centred approach contained in this guide can, and should, be applied to protect highly vulnerable individuals living in general needs accommodation.
- 2.2 Practical advice is offered on how to assess the risk from fire, appropriate fire prevention and protection measures and how to manage fire safety in such buildings. Distinction is made between the fire risk assessment for the building, which is a requirement of legislation, and person-centred fire risk assessments; advice is given on both forms of risk assessment, and the interface between the two is explained. The document also includes case studies based on commonly found issues in such housing, with suggested fire safety solutions.
- 2.3 This guide does not introduce fundamentally new standards or regulations, but builds upon existing good practice and guidance currently in place, while anticipating future fire safety issues in specialized housing. In particular, it aims to provide organizations who own or manage such buildings, enforcing officers and those undertaking fire risk assessments with assistance in understanding the legislative requirements relating to specialized housing and application of these requirements in a consistent and reasonable manner.
- 2.4 The guidance also sets out good practice in respect of matters beyond the scope of legislation; this does not extend to measures required to ensure that business continuity is not affected by fire, but, nevertheless, in evaluating the benefit of fire protection measures, housing providers and commissioners may need to consider the financial and social impact of a fire.
- 2.5 This document does not set prescriptive standards. Its aim is to provide guidance and recommendations for use when assessing the adequacy of existing fire safety provisions in specialized housing. Flexibility will be required when applying this guidance; the level of fire protection should be proportional to the risk posed to the safety of the people in the premises. Therefore, the objective should be to reduce the remaining risk to a level as low as reasonably practicable. The higher the

likelihood of fire and the higher the risk to life, the higher should be the standards of fire protection.

- 2.6 While the guidance includes definitive criteria for determining the level of safety, these are only intended to act as useful benchmarks against which comparisons can be made. Similarly, the methodology outlined here is only intended to assist in making such comparisons. Alternative fire risk assessment methods may be equally valid in order to comply with fire safety law, and alternative approaches to individual fire safety solutions may be acceptable as long as an equivalent level of safety is achieved. However, care should be taken that alternative solutions are valid under all reasonably foreseeable circumstances.
- 2.7 It should be noted that the design of specialized housing varies considerably and no guide can ever provide specific solutions for all possible circumstances. Accordingly, this guide sets out only general principles. In some cases, the principles advocated result in measures beyond the minimum required for compliance with the Building Regulations, as this guide takes more specific account of the vulnerability of the anticipated residents. This is not inconsistent with relevant guidance on the Building Regulations, which acknowledges that there can be a need for additional measures in some circumstances.
- 2.8 While aimed at a broad readership, use of this guide in assessing risk and determining an appropriate package of fire safety provisions in some buildings may require particular knowledge and experience, and it may be necessary to seek specialist help. Users of this guide should consider whether they have the necessary competence before applying this guide to a particular building.
- 2.9 This guide has been designed to be fit for purpose in enforcement of the Regulatory Reform (Fire Safety) Order 2005 ('the FSO') in specialized housing. However, the guide also sets out good practice in protecting residents against a fire within their own accommodation, which is outside the scope of the FSO. Experience shows that it is these residents who suffer fatal and serious injuries from fire.
- 2.10 Nevertheless, it is not suggested that the powers of the FSO enable enforcement action in relation to fire precautions within domestic premises (i.e. the residents' private accommodation), such as flats within sheltered and extra care housing, other than those necessary to protect residents beyond the flat in which a fire starts. This is a matter for community fire safety initiatives, involving not only the fire and rescue service, but also other stakeholders in the safety of vulnerable residents; in some cases, enforcement of the Housing Act 2004 by housing authorities might be the appropriate tool to address inadequate fire precautions in domestic premises.
- 2.11 For clarity, the scope of the FSO in specialized housing is limited to:
- common circulation areas (e.g. corridors and stairways);
  - communal facilities (e.g. lounges), other than in certain shared houses;
  - rooms provided for employees of a care organization in supported housing (e.g. a staff "sleepover" room), which are, effectively, workplaces, rather than domestic accommodation;
  - non-domestic ancillary facilities (e.g. laundries, plant rooms and offices)
  - doors and walls that separate residents' accommodation from common parts;

- monitored smoke detection within, at least, the hallways of flats in sheltered and extra care housing;
- fire detection within residents' accommodation in supported housing, other than in shared houses;
- common roof voids in which compartmentation is necessary to support a stay put policy.

### 3. Scope of this guidance

- 3.1 This guide is intended for buildings in which there is housing intended specifically for people who, by virtue of age, mobility, medical, mental health or cognitive issues, are, to an extent, vulnerable or dependent, and who benefit from living with as much independence as possible in an environment that meets their particular needs. These needs may include, to some degree, the need for care and support services, which, in some supported housing, is similar in nature to that required for residents of residential care homes.
- 3.2 While most specialized housing is provided for older people, who, with advancing age, may require a degree of care and support, there are other forms of specialized housing that have evolved and that are provided for specific user profiles. These include housing for adults with physical, sensory, mental health or cognitive impairments, who live, to varying degrees, independently within the community; in some cases, such residents may require significant care and support, which, in extreme cases, might be provided on a 24-hour basis, necessitating a high level of fire protection measures.
- 3.3 The buildings covered by this guide include buildings which have been built as, or converted to be used as, specialized housing. However, the guide applies primarily to existing buildings. Fire safety design in new buildings used for specialized housing is governed by the Building Regulations 2010<sup>2</sup>, but, once specialized housing is occupied, this guide is applicable. Guidance on compliance with the Building Regulations acknowledges that, for some groups of people, additional measures beyond those set out in that guidance may be necessary. This current guide will be of assistance in recognizing such measures; to that extent, some recommendations may be applicable to new buildings and will be of value to commissioners of specialized housing.
- 3.4 **Specialized housing** is a broad term, and recognized housing typology, such as that in BS 9991<sup>3</sup>, includes various names for different forms of such housing. For the purpose of this guide, these are grouped under three headings as follows:

#### **Sheltered housing (see also Glossary)**

This group includes:

Sheltered or retirement housing in which residents live independently in self-contained accommodation, as in a block of flats for those with general needs, but

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<sup>2</sup> Guidance to Part B of these Regulations (Fire Safety) is contained in the DCLG publication Approved Document B Volume 1 (Dwellinghouses) and Volume 2 (Buildings other than dwelling houses), the latter of which applies to buildings containing flats.

<sup>3</sup> BS 9991: 2015. *Fire safety in the design, management and use of residential buildings. Code of practice.*

the building is predominately occupied by, and promoted to, people who are of a defined age or vulnerability. Such housing usually includes special features to address the particular needs of residents. Some schemes include communal facilities, including lounges, and may also be staffed (though normally only during office hours) by a “warden”, “scheme manager” or “house manager”. They, typically, feature social (“Telecare”) alarm systems to enable communication between residents and someone on or off-site. Another feature of such premises is that, like general needs blocks of flats, they are not staffed to provide assistance to residents to evacuate in case of fire.

### **Extra care housing (see also Glossary)**

This group also facilitates independent living in self-contained accommodation. For the purpose of this guide, the term extra care housing includes:

- Very sheltered/assisted living schemes, which are a form of sheltered housing in which there are managed on-site care and support services for those who need them.
- Extra care schemes, which are forms of sheltered housing in which the managed care and support services normally include 24-hour staffing.
- Close care housing schemes, which are linked to a care home and in which on-site care and support services are provided, but residents are still able to live independently.

### **Supported housing (see also Glossary)**

This group includes:

Houses that provide supported living for people with a level of need who require care and support services, in which there is normally more than one resident. Examples include houses occupied by a group of residents with common characteristics, such as learning disabilities, cognitive difficulties, sensory impairment or mental health issues, which may sometimes be combined with physical disabilities. Each resident has, at least, their own bedroom, but commonly shares facilities such as kitchens and lounges. In some cases, there will be shared living, in which the house is occupied in the same way as a single-family dwelling, whereas, in other cases, residents live independently of each other.

- 3.5 It is not unknown for a range of specialized housing types to be present on the same site and for large scale developments, such as retirement villages, to include, for example, both single household dwellings, such as bungalows, combined with sheltered housing blocks.
- 3.6 A common factor in all these types of housing is that the living accommodation provided for residents is effectively the sole long-term home of the residents. The aim of any care and support services provided for residents is to enable them to live in their own private accommodation for as long as possible; where the term ‘care’ is used in this guide, it is not intended to refer to nursing care but to personal care<sup>4</sup>.

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<sup>4</sup> This is sometimes referred to as domiciliary care and can include the provision of medication and assistance with feeding, toileting, washing and dressing.

- 3.7 Most sheltered and extra care housing schemes are effectively blocks of flats, and this guide is particularly relevant where there are common parts within the building, such as common access stairways and corridors. It is not intended to apply to independent single-family dwellings, such as houses or groups of bungalows, although, given that people living in such accommodation may have a level of need that requires care and support services to be provided in their own homes, some parts of the guide may be relevant to these dwellings.
- 3.8 The guide covers premises in which the fire safety design supports a 'stay put' strategy, such that, in the event of a fire in one flat, there will not normally be a need for immediate evacuation of all other flats. It also addresses other forms of specialized housing, particularly supported housing, in which a simultaneous evacuation strategy is more appropriate (albeit that residents may need to wait for assistance from staff before they can evacuate).
- 3.9 Within this guide, the term 'flat' is used to describe a self-contained domestic dwelling within a building. Other terms, such as 'apartment', are commonly used to describe such accommodation. The term 'flats' is intended to include those arranged on more than one storey, such as maisonettes (sometimes described as duplex apartments).
- 3.10 The scope of this guide does not include buildings with medical facilities, nor does it include care homes such as:
- Residential homes;
  - Nursing homes;
  - Specialized care homes where there is institutional accommodation for specific needs, such as dementia.
- Guidance on fire safety in such premises already exists<sup>5</sup>.
- 3.11 This guide does not address premises registered by the Care Quality Commission (CQC).
- 3.12 This guide does not address other certain other types of premises, including:
- Children's homes;
  - Hostels;
  - Foyer accommodation (see Glossary).
- Again, guidance on fire safety in such premises already exists<sup>6</sup>.
- 3.13 This guide does not address commercial premises, such as a shop or a hairdresser's salon in a sheltered housing scheme. Although such facilities must be included in the scope of the fire risk assessment for the block, the fire precautions should be considered on a case-by-case basis, following general guidance applicable to buildings other than flats. The guide does cover sheltered housing blocks with flats located above commercial premises, such as shops.

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<sup>5</sup> HM Government guide 'Fire Safety Risk Assessment. Residential Care Premises.

<sup>6</sup> HM Government guide 'Fire Safety Risk Assessment. Sleeping Accommodation.

However, guidance on fire safety in the commercial element is outside the scope of the document.

- 3.14 While the guide includes recommendations on fire precautions within residents' private accommodation, this only applies to accommodation occupied by a single person or household. A flat in multiple occupation is outside the scope of the guidance in this document. However, some forms of supported housing, which are included in the scope of this guide, might be regarded as a house in multiple occupation (HMO). (See Part C).
- 3.15 This guide applies to specialized housing regardless of the tenure of the flats or other dwelling units (i.e. whether owner-occupied, rented from a social housing provider or rented from a private rented sector landlord). The term 'residents' is used when referring to the occupants of specialized housing. This is intended to cover all those who live in the building, whether tenants or leaseholders. However, the term 'tenant' is used when specifically referring to tenants, but not other forms of resident.
- 3.16 For avoidance of doubt, the name given to the premises is not the relevant factor in determining whether premises fall within the scope of this guide. The factors to consider are the objectives for which the premises were constructed or converted, the nature of the residents for whom the premises are intended, or to whom accommodation is promoted, and the manner in which the premises are operated.
- 3.17 Such is the variation in the forms of housing that fall within the scope of this guide that it is not possible to specify tailor-made solutions for every variant. This does not mean that the recommendations of the guide should not be applied to premises or groups of occupants that are, in effect, variations from premises typically used as sheltered housing, extra care housing or supported housing, or occupants normally found in these premises. In these circumstances, the recommendations of the guide should be applied by considering the type of specialized housing to which the premises in question are most similar.
- 3.18 For example, while supported housing, as the term is used in this guide, is likely to most commonly comprise a building originally constructed as a single-family dwelling house, supported housing can be provided in a building that comprises a purpose-built block of flats; in that case, architecturally, the premises are most analogous to sheltered housing. If a 'stay put' strategy is then adopted, the recommendations of this guide for sheltered housing will generally be appropriate. If, for some reason, a simultaneous evacuation strategy is adopted, the recommendations appropriate for supported housing are likely to be appropriate.
- 3.19 The guide is concerned only with the safety of those who live in, visit, or work in, buildings used for specialized housing. The guidance is also restricted to recommendations for the safety of those lawfully on the premises.
- 3.20 The guide does not provide recommendations for protection of property. Nor does it include recommendations specifically to address certain consequences of fire, after any necessary evacuation of residents, such as the need to re-house residents at short notice.
- 3.21 By virtue of including guidance on the provision and maintenance of facilities for use by the fire and rescue service in fighting fires in specialized housing, the needs

of fire-fighters are, to some extent, covered in this guide. However, the document is not a guide to operational fire-fighting in such buildings.

- 3.22 Nevertheless, it is essential that fire and rescue services ensure that operational crews understand the design principles that apply to specialized housing, and that fire-fighters are aware of the distinctions between specialized housing and a care home. In particular, it is important that fire-fighters attending a fire in sheltered or extra care housing understand the principles of stay put. Failure to understand these principles can result in risk to residents from inappropriate actions by fire-fighters. Familiarization visits by crews can promote understanding and an awareness of means for accessing information on residents who are likely to have difficulty in evacuating their accommodation in the event of fire.
- 3.23 The guide applies only to England and Wales. However, most of the recommendations regarding fire safety measures are likely to be applicable in Northern Ireland; Part C does not apply to Northern Ireland, as different legislation applies. This guide does not apply to Scotland, for which equivalent guidance will be produced soon after the publication of this guidance.

#### 4. Intended readership

- 4.1 This guide is particularly aimed at those who own, operate and manage buildings used for specialized housing, and at those who give advice on, or enforce standards in, such housing. This includes those undertaking fire risk assessments of such buildings, including those contracted to do so on a commercial basis. The recommendations of the guide should also be properly considered by the commissioners of care services in specialized housing.
- 4.2 Typically, this will include:
- private sector housing providers (landlords);
  - social housing providers;
  - managing agents or facilities managers;
  - care and support providers;
  - local authority service commissioners;
  - enforcement officers in local housing authorities;
  - enforcement officers in fire and rescue authorities;
  - advice agencies;
  - consultants/contractors carrying out fire risk assessments.
- 4.3 The guide is not specifically intended for residents, although it is recommended in the guide that landlords and others responsible for managing fire safety in specialized housing should engage and communicate with those who live in the buildings in their care.
- 4.4 It is recognized that some readers will be primarily interested in the practical application of this guide as it relates to managing fire safety in specialized housing. Accordingly, particular advice of this nature is highlighted in the text and, where appropriate, key points are summarised. This can be found in the shaded boxes.



However, to achieve an adequate standard of fire safety, it is important that all sections of the guidance are taken into account

## 5. Relationship to other guidance.

- 5.1 This sector-led guide builds upon the advice given in the HM Government guide 'Fire Safety Risk Assessment. Sleeping Accommodation', published by the Department for Communities and Local Government (DCLG), and the Local Government Association's guide to fire safety in purpose-built blocks of flats. This guide has been developed specifically to address blocks of flats and other buildings used for specialized housing. It is, therefore, the more appropriate guide to use for such premises.
- 5.2 Certain buildings used for specialized housing may also include premises within the scope of the LACoRS guide 'Housing - Fire Safety: Guidance on fire safety provisions for certain types of existing housing'. However, again, this guide is the more appropriate for specialized housing.

## 6. Overview of care landscape

- 6.1 Common to all residents of sheltered and extra care housing is the desire to live independently in their own homes and to enjoy the benefits that such accommodation can provide in terms of social interaction with others of a similar age and activity profile, and, where required, personal care and domestic support services to meet their needs. Similarly, the care and support provided to those living in supported housing is also aimed at enabling residents to lead independent lives as far as possible.
- 6.2 The profile of residents in specialized housing and, in particular, sheltered housing, has changed gradually over recent years. People who previously might have been residents of care homes often now live in specialized housing, and those who might have moved from such schemes into care homes are now staying longer in their homes in sheltered accommodation. Specialized housing providers have responded by modifying the nature of sheltered housing schemes to facilitate the provision of the increased care and support needed for such people, often using advances in technology to enable this to occur. Extra care housing, in particular, has been developed to meet this need.
- 6.3 While such schemes were originally set up to provide the care packages that residents needed through a single care provider, the changes in funding for such care and support have impacted on this model. Given the individual care packages funded by local authorities, it is now possible that different care providers may be involved in meeting the individual needs of residents who occupy the same building.
- 6.4 The extent to which residents now live in sheltered housing has resulted in an increasing number who, owing to frailty or illness, are increasingly vulnerable because of reduced mobility or lessened ability to react and respond as necessary in the event of a fire. It is also the case that, within the population of a sheltered scheme, there can be increasing levels of allied conditions, such as dementia and behavioural characteristics (e.g. a tendency to hoard), such that some residents pose a greater risk of either causing a fire or of creating conditions that lead to a more severe fire should one occur.

- 6.5 This changing care landscape has led to some significant developments in terms of fire safety in sheltered housing, including:
- The need to consider a person-centred approach to safeguarding an individual resident from fire where that resident is especially vulnerable because of the likelihood of causing a fire, inability to respond to a fire and self-evacuate effectively, or otherwise poses an especially high risk to others.
  - The challenge, arising from funding issues, of, for example, providing staff, such as scheme managers, who could filter false fire alarm signals, and of maintaining social alarm (“Telecare”) systems, which normally provide the means of monitoring smoke alarms in flats.
- 6.6 A further change in the care landscape relates to supported housing and the nature of the residents who receive support in these premises. Some supported housing comprises premises that were previously registered care homes, but are now deregistered. The disabilities of residents in these premises are often of a similar nature to those in small registered care homes, such that they are not fully capable of independent living; they need significant support from carers, either in terms of normal living activities, such as cooking, or mobility, or both. This creates a challenge for evacuation in the event of fire, as the number of staff required for care is not necessarily sufficient to assist with evacuation; the ability of staff to evacuate residents at times of low staffing (normally during the night) needs to be considered by commissioners of care services in allocating residents to any premises, and in determining the number of staff for whom funding is provided.

## 7. **Layout of the guide**

- 7.1 The guide is laid out as follows:

### **Part A**

Contains an analysis of fires in specialized housing.

This is intended to consider the risk to vulnerable residents from fire in these buildings in comparison with the risk to people living in other forms of housing.

### **Part B**

Outlines the general principles of fire safety in specialized housing.

This is aimed at informing the reader as to the basis of fire safety design in such buildings. It highlights how fires can develop and spread if suitable precautions are not taken and why, potentially, fires in specialized housing can be seen as more serious, given the nature and vulnerability of residents.

The evacuation strategies adopted in specialized housing are discussed here and, in particular, the concept of ‘stay put’ as a strategy, which is the principal strategy adopted in sheltered and extra care housing. While it is always intended that the occupants of a flat in which a fire occurs should evacuate immediately, the concept of a stay put strategy, whereby other residents remain in their flats, is explained here, along with the implications this has for building design.

The alternative of evacuating some or all of the other residents at the same time is also discussed, particularly in relation to supported housing.

### **Part C**

Provides an overview of the legal framework in relation to fire safety in specialized housing.

In particular, it aims to help landlords, those managing fire safety in these buildings, enforcing authorities and fire risk assessors to understand the duties imposed under housing legislation, as well as under the FSO. The extent of these obligations, particularly where, under a lease, landlords do not have control over certain fire safety provisions, is also addressed.

### **Part D**

Outlines the background to the person-centred approach to fire safety that is increasingly being advocated to address vulnerable residents of specialized housing who are especially at risk from fire.

The concept of a fire risk assessment specifically for an individual resident is introduced, along with the particular risk factors that need to be considered.

### **Part E**

Outlines the principles and methodology of the building fire risk assessment.

This is aimed not only at those undertaking such assessments, but also enforcing authorities responsible for auditing them. It is also intended to assist landlords and others when commissioning third parties to carry out fire risk assessments on their behalf.

While there is other guidance available on fire risk assessment, the focus here is on its specific application to specialized housing. It includes guidance on the following aspects of the fire risk assessment process:

- who should carry out a fire risk assessment and what level of competence is required;
- what fire risk assessments should cover, particularly in relation to fire safety within the flats themselves;
- how intrusive they should be with regard to assessing aspects of the construction of the building;
- when they should be carried out and how often they should be reviewed;
- how they should be recorded.

### **Part F**

In this Part, a series of practical measures are outlined to prevent fires caused by the fire hazards commonly found in specialized housing. This is particularly aimed at landlords and those managing fire safety in such buildings, but also serves to inform those giving advice as to a reasonable approach to take on particular issues.

### **Part G**

Outlines how various fire safety measures can be applied to reduce the risk to vulnerable residents, as determined by the person-centred approach discussed in Part D.

## Part H

Describes how various fire safety measures may be applied in a building to reduce risk.

In this Part, benchmarks are outlined for various fire safety measures employed in fire safety design to make a building safe. These measures include escape route design, compartmentation, fire detection and alarm systems, smoke control provisions and facilities for the fire and rescue service when fighting fires. Other aspects, such as emergency escape lighting, fire extinguishing appliances and fire safety signs and fire suppression systems are also addressed here.

A methodology is included for comparing the standard found in a particular building to that of the benchmarks set out in this Part of the guide.

To illustrate the application of this approach, case studies are included in the appendices. These are only examples of fire safety solutions for particular sets of circumstances. Other solutions may be equally valid and, accordingly, those described should not be used as 'off-the-peg' solutions.

## Part I

This Part is particularly aimed at landlords and others with the responsibility for the ongoing control of fire safety. It will also be useful to those considering the standard of fire safety management when assessing risk.

Advice on the need for emergency plans and fire procedures is given, along with suggestions for engaging with residents to improve awareness of hazards and preparedness for fire emergencies. The benchmarks for testing and maintenance of fire safety provisions are included. This includes good practice on what should be recorded and how records should be kept.

This Part also includes guidance relating to changes that might introduce new risks. Alterations to buildings can inadvertently affect fire safety standards, and examples of where this might occur are given.

## 8. Appendices

8.1 Various appendices are included, which are intended to act as a reference source for readers.

These comprise:

- A summary of fire safety measures recommended in this guide for sheltered, extra care and supported housing;
- Steps in a building fire risk assessment;
- Selecting a competent professional fire risk assessor;
- Steps in a person-centred fire risk assessment;
- Further guidance on mobility scooters;
- Guidance when commissioning Telecare services;
- Fire safety advice for residents;

- Examples of fire action notices;
- Case studies illustrating the application of the guidance to various situations commonly found in existing specialized housing.

## **9. Glossary and definitions**

9.1 The glossary is intended as a plain English guide to some terms used in this document.

## **10. Bibliography**

10.1 The bibliography offers sources of further reading for those seeking greater detail or researching the source of some of the guidance. It also lists the full titles of all references included in the guide.

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# Part A: Fires in specialized housing and their impact

## Key Points

- In sheltered housing, the numbers of fires and deaths from fire are disproportionate to the number of sheltered housing flats and the number of people who live in sheltered housing. This demonstrates the high risk from fire for occupants of this type of premises.
- The greatest risk of death is for those in the room in which fire starts; often those in the room are directly involved in the fire (e.g. their clothing or bedding is the item first ignited). This establishes the need for a person-centred approach, tailor made for each resident who is highly vulnerable.
- People living in specialized housing are particularly vulnerable to injury or death if a fire occurs in their accommodation. Unless there is adequate fire-resisting construction, a fire in one resident's accommodation places other residents at risk. Experience shows that, in general, compartmentation and fire protection of escape routes are successful, so it is rare for a resident to die as a result of a fire in another resident's accommodation, but care is needed to ensure that fire-resisting construction is not compromised when work is carried out.
- Fire detection or sprinklers within the room may not save the life of a resident directly involved in a fire. Accordingly, to keep fire risk to a minimum, it is just as important to prevent fires as to provide measures to protect people when fire occurs. For the most vulnerable residents, it might be appropriate to consider personal protection systems to safeguard those residents from fire.
- The most significant influences on fire risk in specialized housing are advanced age, physical disability, cognitive difficulties and mental health problems, not the type of dwelling in which people live. Age is a particularly significant factor; people over 80 years of age are at especially high risk.
- All residents' accommodation should have comprehensive fire detection.
- It is important to ensure that fires do not start in the common parts or common facilities.
- Sprinkler and watermist systems provide a high level of protection for vulnerable residents, and, for long-term older residents, these systems "future proof" residents' accommodation to cater for potential effects of age on mobility, sensory faculties and cognitive ability. This guide strongly recommends sprinkler or watermist protection for all new sheltered and extra care housing, and for high risk supported housing. In some cases, retrofitting of sprinkler or watermist protection might be considered. More tailor made suppression systems can be appropriate to protect individual high risk residents.

## 11. Introduction

- 11.1 By the very definition of specialized housing, those living in specialized housing represent those most vulnerable to injury or death if a fire occurs in their accommodation. This is not related to architectural aspects of the accommodation, but to the characteristics of the residents, for which the design of the premises and the fire precautions must compensate. Where there is insufficient compartmentation between each resident's accommodation, or between residents' accommodation and common parts, a fire in one resident's accommodation places other residents at risk. The contrast in this respect between specialized housing and other forms of housing is discussed in Part B of this guide. In this section, evidence of the consequences of residents' vulnerability is discussed.

## 12. Fires in specialized housing

- 12.1 The high risk that fire presents to vulnerable residents was clearly identified in research carried out as long ago as 1997. The objective of that research was to examine the risk from fire for those living in houses in multiple occupation (HMOs)<sup>7</sup>. However, the scope of the research included various forms of specialized housing, including sheltered housing.
- 12.2 The research showed that, whereas the risk of death per annum for adults aged 18 to 59 years living in single occupancy houses was one per 309,000 persons, the equivalent death rate for persons aged 60 or over living in purpose-built flats was one in 48,000. The number of deaths equated to one death per annum for every 180,000 single occupancy houses occupied by 18 to 59 year olds; for premises equivalent to sheltered housing for older persons, the death rate was one per 15,000 dwellings. It was also found that the rate of deaths from fire in hostel-type accommodation was twice the rate for single occupancy houses.
- 12.3 Since the time of that report, domestic fire deaths have shown a continuous downward trend. In the year 2014/2015, in England and Wales, there were 211 fire deaths in dwellings, the lowest number of deaths since records began in 1960 (though data for 2015/2016 shows a small rise from this all-time low). Generally, people are safer from fire in their homes than at any time in recent history. Over the last 30 years, the number of deaths from fires in dwellings has reduced by around 60%.
- 12.4 This significant reduction in domestic fire deaths is almost certainly the result of a number of factors, one of the most important of which is the great increase in the provision of smoke alarms in homes. There is overwhelming evidence to show that, where occupants of a dwelling are given an early warning of fire by a smoke alarm, the chance of anyone dying is greatly reduced. Another important factor is legislation to control the flammability of domestic furniture.
- 12.5 In addition, undoubtedly many lives have been saved by government, and individual fire and rescue services', 'community fire safety' (CFS) initiatives. CFS involves proactive efforts to reduce the incidence and impact of fire through education, information and publicity. Significant CFS initiatives include the provision of smoke alarms to householders, education in schools and free home fire-safety checks.

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<sup>7</sup> Fire Risk in Houses in Multiple Occupation Research Report. Department of the Environment, Transport and the Regions. The Stationery Office 1997.

- 12.6 Nevertheless, there remains concern on the part of the fire safety community regarding the continuing occurrence of deaths of vulnerable residents of specialized housing from fire. The success of the measures described above in relation to reduction of deaths, in respect of domestic dwellings generally, provides signposting towards some of the measures that may be adopted to compensate for the vulnerabilities of residents in specialized housing.
- 12.7 Such measures include more extensive provision of smoke and heat detection within residents' accommodation, beyond the minimum required by the Building Regulations in England and Wales, engagement with residents to enable person-centred fire risk assessments, and awareness of fire hazards and consequent risks to residents on the part of all agencies who engage with residents, regardless of the purpose of that engagement.
- 12.8 There is also considerable potential for major reduction in risk by installation of automatic fire suppression systems. In Wales (and Scotland), all new sheltered and extra care housing must be protected by automatic fire suppression systems for compliance with the relevant building regulations. Although not required for compliance with building regulations in England and Northern Ireland, this guide strongly recommends the provision of sprinkler or watermist protection for all new sheltered and extra care housing in these countries. It may also be appropriate to consider sprinkler or watermist protection of certain supported housing, in which there may be difficulties in evacuation of residents.
- 12.9 While it is not suggested that sprinkler or watermist protection should be retro-fitted in all existing specialized housing, it may sometimes be appropriate to consider this measure, or to consider personal protection systems, comprising localized fire suppression within a flat of a highly vulnerable resident, so enabling the resident to continue to live safely in their own accommodation.

### 13. Relative risk in specialized housing

- 13.1 In England, around 2 per cent of housing stock comprises units of sheltered and extra care housing<sup>8</sup>. Yet, during 2010-2016, around 7 per cent of dwelling fires occurred within this type of housing<sup>9</sup>. There is not a great deal of equivalent national data for other forms of specialized housing.
- 13.2 In fact, the proportion of dwelling fires that occurred in sheltered and extra care housing might actually be even higher than this, as it is known that, on occasions, fire and rescue services have recorded these premises as other types of premises, such as flats (i.e. general needs flats) or care homes. On the other hand, more small fires in sheltered and extra care housing are likely to be recorded in statistics than similar fires in general needs housing (because of remote monitoring of smoke alarms and resulting fire and rescue service attendance).
- 13.3 Around 1.1 per cent of the English population live in sheltered and extra care housing<sup>8</sup>. Yet, during 2010-2016, nearly 5 per cent of all fire deaths in dwellings occurred in this type of housing<sup>9</sup>; this disproportionate number of deaths again underlines the vulnerability of the residents. It is relevant to note that the number of

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<sup>8</sup> Source: Extrapolated from information in Housing our Aging Population. Panel for Innovation. Homes and Communities Agency, Communities and Local Government, Department of Health. 2009

<sup>9</sup> Source: Home Office fire statistics, derived from fire and rescue service Incident Report System data



non-fatal casualties is much more proportionate to the population of sheltered and extra care housing; only around 2% of non-fatal casualties in dwelling fires occur in this type of housing.

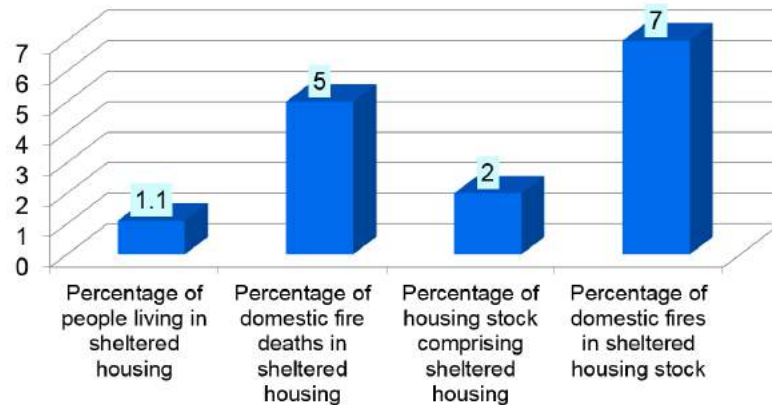


Figure 1: Relative risk in sheltered housing

- 13.4 The disproportionate risk of death from fire for those living in sheltered and extra care housing arises from the average age of residents. Age is a major risk factor in all types of housing. For example, in 2014/2015, across the entire population, there were 4.8 fire fatalities per million people. In the 65-79 age group, the figure was 7.9 deaths per million people, increasing to 17.8 deaths per million for those of 80 years and over, though, happily, it is the rate of fire deaths in the latter age group that has shown the greatest reduction over the past few years<sup>9</sup>.

#### FATALITIES PER MILLION POPULATION

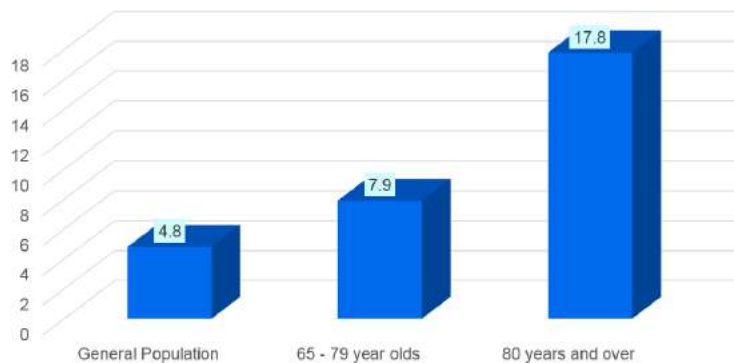


Figure 2: Effect of age on fire risk

- 13.5 A possible explanation of the apparent anomaly between the level of deaths and the level of non-fatal injuries from fires in sheltered and extra care housing might be found in data on spread of fire. In dwellings generally (again, based on 2010-2016 data), around 55% of fires are confined to the item first ignited or the room in which fire occurs. In considerable contrast, around 96% of fires in sheltered or extra care housing are confined to the same extent.
- 13.6 The percentage of fires that never spread beyond the room of fire origin in these premises is extraordinarily high compared with any other type of residential or commercial premises. This almost certainly reflects the benefits of early detection of fire by smoke detectors that are remotely monitored at alarm receiving centres, supported by adequate compartmentation to contain fires until arrival of the fire and

rescue service; equally, as a result of monitoring of smoke detectors, some small fires reported to the fire and rescue service might never have spread beyond the room, and, in other types of dwelling, might never have been reported.

- 13.7 Based on both anecdotal and statistical evidence, it would seem that one reason for the disproportionate number of deaths from fires in sheltered housing is that, while fire spread is frequently limited, those who die are directly involved in the fire (i.e. they accidentally set fire to their clothes or bedding, often as the result of smoking). This is reflected in data on fires attended by London Fire Brigade, which show that, between 2011-2016, the cause of death in two thirds of fatalities in sheltered housing was burns or a combination of burns and smoke inhalation.
- 13.8 In England, between 2010 and 2016, only 11% of fires in sheltered housing were started by smokers' materials, cigarette lighters and matches, but these fires alone accounted for 79% of all fatalities<sup>9</sup>. The material first ignited was clothing or textiles in only 9% of all fires, but these fires accounted for 52% of all fatalities<sup>9</sup>. Similarly, furniture and furnishings were the materials first ignited in only 4% of fires, but 20% of all fatalities resulted from this small proportion of fires<sup>9</sup>.

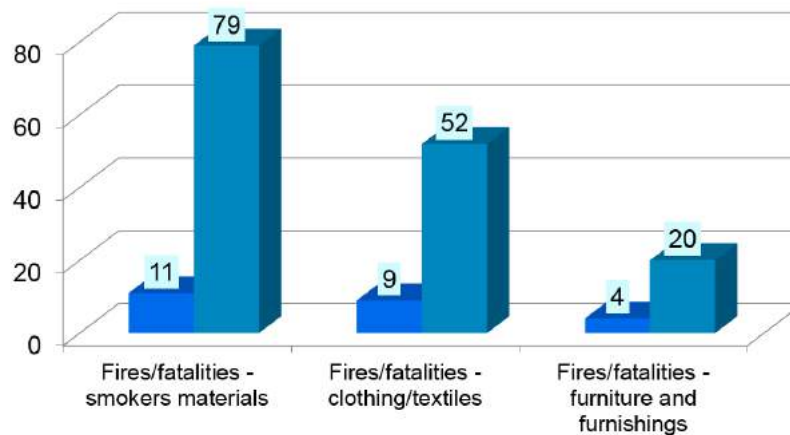


Figure 3: Percentage fires and fatalities in sheltered housing by item first ignited

- 13.9 Once a fire occurs in a general needs block of flats, the likelihood of a death is actually less than the likelihood of a death when fire occurs in a bungalow or a house. The lower frequency of deaths when fire occurs is paralleled by a lower rate of injury. One possible reason for this is that greater protection is afforded to escape routes in many flats than in most bungalows and two-storey houses. This greater protection is negated, to some extent, in specialized housing because of the greater vulnerability of residents to fire once it does occur.
- 13.10 Consequently, in specialized housing, additional fire protection measures are normally required, over and above those found in general needs flats. As a minimum, this includes more extensive automatic fire detection, so providing earlier warning of fire to compensate for a potentially longer evacuation time. Where evacuation times could, potentially, be very long, automatic sprinkler or watermist protection might be appropriate.
- 13.11 On the other hand, because, in any block of flats, whether providing general needs accommodation or sheltered housing, each individual flat is totally enclosed in fire-resisting construction, the vast majority of fires are contained within the flat (and, in many cases, the room) where they start. It is certainly rare for anyone beyond the

flat where a fire starts to die as a result of a fire in a flat. Where, on very rare occasions, a person has died beyond the flat in which the fire started, this has almost invariably been found to result from catastrophic failure of a critical fire safety measure, such as compartmentation.

- 13.12 This is the basis for the 'stay put' principle (discussed later in this guide) in sheltered and extra care housing: when a fire occurs within one dwelling (or, less likely, in the common parts), it is normally safe for other residents to remain within their own flat. This principle is undoubtedly successful in an overwhelming number of blocks of flats, regardless of whether these are general needs blocks or specialized housing. In 2009-2010, of over 8,000 fires in all forms of blocks of flats, only 22 fires necessitated evacuation of more than five people with the assistance of the fire and rescue service.

#### **14. Factors influencing the likelihood and consequences of a fire**

- 14.1 Both the likelihood and the consequences of fire in specialized housing are strongly influenced by the characteristics of the residents. In particular, it is these factors, more than any other, that result in the disproportionate number of fires (and fire deaths) in sheltered housing.
- 14.2 This highlights the importance of fire prevention within the residents' accommodation. It is also clear that much can be done by those who engage with residents (such as care and support workers, housing officers, and housing providers) and the fire and rescue service (through their CFS activities) to reduce the risk to all residents. This is particularly true in the case of the most vulnerable people, such as older people, disabled people, people with chronic serious illness and people with cognitive or mental health problems.
- 14.3 In any specialized housing, the assessment of risk to the resident population from fire clearly needs to take the generic characteristics of the resident group into account, particularly in the case of accommodation provided specifically for certain high-risk groups. Guidance on the building fire risk assessment is given in Part E of this guide, while guidance on person-centred fire risk assessment, designed to address the specific characteristics of individual residents, is given in Part D.
- 14.4 Notwithstanding the importance of fire prevention, to ensure that, in any specialized housing, when a fire occurs the risk to people is minimized, various fire safety measures need to be provided. These are specific to specialized housing, and take account of the differences between specialized housing and general needs blocks of flats or traditional houses. The principal differences are discussed in Part B of this guide.

#### **15. Implications of risk data for fire safety measures**

- 15.1 From the analysis in the current Part of this guide, the following conclusions can be drawn in relation to fire safety measures:
1. In existing sheltered and extra care housing, the risk to residents in a room of a flat beyond the room in which a fire starts can normally be minimized to an acceptable extent by the provision of remotely monitored fire detectors in all rooms of each flat (other than toilets, shower rooms and bathrooms).
  2. The disproportionately high number of deaths from fire in sheltered and extra care housing tends to arise from the presence of vulnerable residents in the

room in which the fires start. Anecdotal and statistical evidence suggests that, in many cases, those who die are directly involved with the fire (e.g. the fire involves ignition of clothing or bedding).

3. Where a resident is directly involved in a fire, even a smoke detector in the room will not reliably prevent their death. Response by the fire and rescue service, or even by staff (if present), is unlikely to occur quickly enough after detection to prevent such deaths. This underlines the importance of measures to prevent the occurrence of fire.
4. Sprinkler or watermist protection would very reliably further enhance the safety of all residents beyond the room (and the flat) in which fire starts; sprinkler or watermist protection might also save the lives of residents in a room in which a fire starts, but not, in all probability, residents directly involved in the fire.
5. To save the lives of the vulnerable residents who are at greatest risk of death from fire necessitates person-centred fire risk assessments and consequent fire strategies (see Part D); generic fire risk assessments and fire safety measures for the premises might not be effective in preventing the deaths that currently occur.
6. For vulnerable residents, with potential for direct exposure to fire, person-centred fire risk assessments can identify suitable measures to prevent the ignition and development of a fire. (see Parts D and F). For the most vulnerable residents, these risk assessments can also identify the potential for personal protection systems, which operate quickly to extinguish a fire in, for example, the clothing or bedding of a resident (see Part G).
7. While data on fire deaths and injuries in the forms of supported housing within the scope of this guide are not easily obtained, generic risk assessments, which will almost inevitably recommend comprehensive fire detection, might be sufficient in some cases. However, where residents of supported housing are particularly vulnerable, the person-centred approach is appropriate, again leading to person-specific fire prevention and, in the most extreme cases, personal protection systems.

# Part B: Fire safety – how specialized housing differs from other residences

## Key Points

- Fire safety design of specialized housing comprising blocks of flats is based on the same principles as adopted in general needs blocks. Fire safety design of specialized housing that takes the form of a single dwelling is based on the same principles as adopted in houses in multiple occupation. However, commonly in specialized housing, if evacuation is necessary, residents are likely to need longer to evacuate than typical residents in general needs flats and houses; in extreme cases, some residents may be unable to evacuate without assistance.
- Blocks of flats used for sheltered and extra care housing are designed to support a 'stay put' policy. While this relies on there being effective compartmentation, it is still considered to be the most appropriate evacuation strategy for such buildings.
- Compartmentation in supported housing is not normally adequate to support a stay put policy, so it is normally necessary to evacuate all residents when fire occurs.
- Sheltered housing schemes are not staffed to enable assistance to be provided to evacuate residents. In many extra care housing schemes, staff might be able to assist a resident to evacuate the flat of fire origin, but not all other residents. The recommendations in this guide for such schemes are based on the assumption that, generally, residents are able to escape unaided from their own flats and can make their way to a place of safety using the common means of escape. However, it is recognized that, for some residents, particularly those in supported housing, disabilities may make this particularly difficult. While the design of the means of escape and other fire safety measures in these premises is not based on external assistance, there could, ultimately, be reliance on rescue by the fire and rescue service in the event that residents cannot escape by themselves.
- A person-centred approach that recognizes the particular needs of vulnerable residents is likely to be necessary in cases where mobility and other issues make escape by an individual resident problematic. This may result in the need to provide additional fire safety measures, such as more extensive fire detection, or even a personal protection suppression system, within a particular resident's accommodation.
- As in any domestic or residential premises, fire detection and alarm systems are a key part of the protection of residents from a fire within their own flat. In sheltered and extra care housing, the early warning provided by such systems also benefits other residents, in that it enables the early attendance of the fire and rescue service. Remote monitoring of the fire detection in the flats is essential to facilitate summoning of the fire and rescue service. In supported housing, where it is likely to be necessary to evacuate the entire premises in the event of fire, a communal fire detection system, with comprehensive fire detection throughout all rooms and areas, is necessary.
- Unlike general needs blocks of flats, often, sheltered and extra care housing schemes are also provided with communal fire detection and alarm systems. However, the need

for such systems primarily relates to the presence of communal facilities in the building, such as lounges, and to the need to evacuate people in the common areas in the event of a fire in any such facilities.

- Care should be taken when applying current benchmark standards to existing specialized housing, as it is not normally appropriate to upgrade fire precautions retrospectively simply because standards have evolved and changed. Nevertheless, certain developments in recognized practice (e.g. extensive coverage with smoke and heat detectors) need to be taken into account.
- Other developments, such as automatic suppression systems, and in particular sprinkler and watermist systems, which can provide a high level of protection for vulnerable residents, will only be appropriate for retrofitting if the cost and effort of adopting them is proportionate to the risk. Such systems may be appropriate as part of a tailor made solution for a particular resident, emanating from a person-centred risk assessment.
- The installation of sprinkler or watermist systems throughout a building can 'future proof' residents' accommodation to cater for potential effects of age on mobility, sensory facilities and cognitive ability. Sprinkler or watermist protection is, therefore, recommended for all new sheltered and extra care housing, and for high risk supported housing, but it would be unreasonable to expect such special provisions to be incorporated throughout an existing building retrospectively, simply to address the changing nature of some the residents.

## 16. Introduction

- 16.1 Specialized housing is a form of purpose-built or converted residential accommodation for people who have a particular set of needs that the accommodation can be designed to address. It is well-recognized that fire safety design of such buildings needs to take account of the vulnerability of some, or commonly all, residents in the event of fire. However, fundamentally, specialized housing is intended to facilitate independent living in domestic accommodation. Accordingly, much of the specialized housing stock comprises sheltered and extra care housing in the form of blocks of flats.
- 16.2 Sheltered housing schemes, in particular, vary in respect of size, design, use and complexity. They can range from a collection of self-contained bungalows or flats, without any additional on-site facilities or staff to manage the building and support residents, to much larger complexes that may provide communal facilities such as kitchens, laundry rooms, communal lounges, and which may have on-site scheme managers or other staff.
- 16.3 Although some such schemes still have an on-site scheme manager, many rely on social alarm (“Telecare”) systems linked to alarm receiving centres to provide support to residents. In these cases, there may be only limited day time cover and no management presence during the night to provide any assistance to the residents in the event of a fire. Even in extra care housing schemes, where a higher level of staff presence will commonly be provided by virtue of carers being on site, the assistance that can be provided to residents in the event of fire is limited.
- 16.4 Sheltered housing and extra care housing schemes are designed and constructed on similar lines to purpose-built blocks of flats. Each flat is the domestic dwelling of the resident, and, while communal facilities, such as lounges, might be provided, this does not alter the fundamental premise that people in sheltered and extra care housing are living in separate private dwellings (their flats). This situation is far removed from the type of institutional living associated with, for example, a care home.
- 16.5 In view of the above, many of the considerations that apply to blocks of flats will also apply to certain specialized housing. For example, in sheltered and extra care housing, a “stay put” strategy is adopted in the event of fire. However, this should not be the case where the design and construction of the building does not satisfy the principles applied to blocks of flats, particularly in relation to means of escape and compartmentation.
- 16.6 For example, supported housing that has been converted from single-family dwelling houses would not be viewed in the same way, and a fundamentally different approach is adopted, especially in terms of evacuation strategy. Typically, fire precautions will be similar to those appropriate for a house in multiple occupation. In these cases, a simultaneous evacuation strategy is appropriate. The potential need for staff to assist with evacuation should form part of the fire strategy in such cases.
- 16.7 The consequences to residents of a fire within their own accommodation in specialized housing is no greater than for those of similar vulnerability living in other forms of housing. In any block of flats, the potential consequences of fire spread from one flat to another has long been recognized. While fire safety standards

have developed over the years, they have always aimed to ensure that the level of safety for those living in blocks of flats is equivalent to that for those living in houses. This is equally true for blocks of flats used for specialized housing.

- 16.8 Clearly, the limitations of the residents of specialized housing should be taken into account when determining suitable fire safety measures for the building as a whole. For example, the design of sheltered and extra care housing usually incorporates additional fire safety measures to compensate for residents' potential limitations, such as reduced mobility. In circumstances where the limitations of the residents in specialized housing have not been considered at the time the premises were designed, reduced mobility becomes a critical factor when determining suitable fire safety measures.

## 17. Means of escape

- 17.1 Fundamental to the fire safety design of any building is the ability to escape safely. The key objective in escape route design is that it should be possible to escape unaided (i.e. without external assistance) while it is still safe to do so. A person's ability to escape will be affected by both the smoke and the heat from a fire. Smoke not only reduces visibility, but can, because of the toxic gases and irritants in the smoke, cause incapacitation. High temperatures and radiant heat from the flames will also impact on people's ability to escape. Recognizing these hazards and meeting this objective underpins fire safety design in all buildings. It applies equally to specialized housing.
- 17.2 There are situations in which fire and rescue services need to rescue people by using ladders. While some residents' accommodation in specialized housing will be within reach of fire and rescue service ladders, this will not always be the case. In addition, modern traffic conditions, including congestion and restricted access due to parking, can significantly impact on the ability to carry out such rescues. Moreover, many residents in specialized housing would be unable to walk down a fire and rescue service ladder. It is, therefore, a fundamental principle that escape route design in specialized housing should not rely on external rescue by the fire and rescue service.
- 17.3 However, this does not mean that the fire and rescue service will never need to rescue a person if, because of issues such as infirmity, reduced mobility or mental health, a person cannot evacuate themselves. Indeed, there will be some residents in sheltered housing, and particularly in extra care housing, who are likely to have difficulty in escaping from a fire in their own flat without a degree of outside assistance. (This underlines the importance that fire and rescue service crews understand the principles of design and operation of specialized housing.)
- 17.4 Partly as a result of this, in recent times, the concept of a person-centred approach to fire safety for residents who are especially vulnerable in the event of fire has been introduced. This has enabled consideration to be given to possible additional fire safety measures in those persons' flats to address the increased risk.
- 17.5 To enable people to evacuate safely in the event of fire, modern houses are designed with an alternative means of escape for use if the occupants cannot use the normal way out of the dwelling. Alternatively, to ensure that it can be used safely, the main exit route is 'protected', i.e. enclosed in fire-resisting construction. In 'general needs' bungalows, two storey houses and ground or first floor flats,



windows are recognized as an alternative means of escape, but this is clearly not normally suitable for residents living in specialized housing.

- 17.6 Other flats do not normally have alternative means of escape. Instead, limitations on the size and layout of the flats normally apply, with restrictions on the overall distance from the front door to the furthest part of the flat. Alternatively, a protected entrance hall is provided to safeguard the internal route of escape from each habitable room to the front door. Again, limits are applied to the length of the hallways.
- 17.7 In practice, in sheltered and extra care schemes, rather than provide protected entrance halls with fire-resisting doors, which can be seen as an obstacle to older residents, design is often based on limited travel distances or, for those flats on the ground level, alternative exits.
- 17.8 While the internal escape from flats is designed on similar principles to that of houses and bungalows, the key difference in fire safety design in a block of flats relates to the fact that, once out of the flat, further travel is required to reach ultimate safety. Escape for residents is, therefore, dependent on the common parts being suitably designed and maintained for use in an emergency. This applies equally to blocks of flats that are used as specialized housing.
- 17.9 While the flats, as domestic dwellings, are outside the scope of the FSO, those elements of the common parts that afford escape for residents once outside their flats are within the scope, as are certain measures within the flats that are necessary for protection of other residents (see Part C of this guide).
- 17.10 Design of communal means of escape in any block of flats is based on certain assumptions. These include:
- The most likely place of origin of a fire will be in a flat itself. This is particularly the case for some residents of specialized housing.
  - There is a high degree of fire separation between flats and the common parts and, therefore, the likelihood of fire and smoke spread beyond the flat of origin is low.
  - The materials used in the construction of the building or the protection afforded to them are such that fire is unlikely to spread through the fabric of the building.
  - The use of the common parts, and the nature of any combustible items present, is such that any fire originating in the common parts is unlikely to spread beyond the immediate vicinity.
  - There will be no external rescue, and the means of escape should provide protection so that residents can escape by themselves.
- 17.11 The above assumptions dictate the appropriate protection for the communal means of escape.
- 17.12 In sheltered and extra care housing schemes, account needs to be taken of the nature of the residents, in that mobility and health issues may slow a person in their escape using the common parts. The distance of travel from a flat entrance door to a door to a protected stairway, protected lobby or door sub-dividing a corridor is particularly important and needs to be more limited than in general needs flats; this is to allow residents to escape unaided as it cannot be assumed that staff, such as

a scheme manager or other persons, will be available to render assistance. Clearly, vulnerable residents should not be required to travel far in a corridor that is affected by smoke to a place of safety, regardless of whether or not they are assisted with evacuation.

- 17.13 While the design of the means of escape and other fire safety measures in specialized housing is not based on external rescue, there will be reliance ultimately on rescue by the fire and rescue service in the event that residents cannot escape by themselves. (It is essential that this is clearly understood by operational fire-fighters.)
- 17.14 In this connection, it is important to distinguish between the concepts of *evacuation* and *rescue*. In sheltered and extra care housing, only the flat of fire origin needs to be evacuated (at least in the first instance). If a resident of that flat is unable to evacuate themselves, rescue by the fire and rescue service may, ultimately, be necessary. This is no different from the situation that would arise if that resident were living in a flat in a general needs block or a bungalow, nor does this imply any failure of the emergency plan for the premises. Widespread evacuation of sheltered and extra care housing should not normally arise. If it does become necessary, this may reflect a failure in compartmentation, necessitating involvement of the fire and rescue service.
- 17.15 However, the role of the fire and rescue service does not involve routine evacuation of premises. Accordingly, in specialized housing with a simultaneous evacuation strategy, such as most supported housing, management of evacuation is not the responsibility of the fire and rescue service. If assistance is required for evacuation of residents beyond the accommodation in which a fire starts, this should be provided by staff on the premises, though the fire and rescue service may be involved in rescue of a person in whose accommodation a fire occurs. The fire and rescue service may also assist with evacuation if it is not completed by the time of their attendance.
- 17.16 Sheltered and extra care housing are clearly examples of residential accommodation intended for people with a particular set of needs. While fire safety design in such buildings includes consideration of the implications of these needs for means of escape and other fire safety measures, it cannot cater for situations where, due to changing circumstances, a resident becomes so vulnerable in the event of fire that they are no longer suited to this type of accommodation and, for example, it would be more appropriate that they be accommodated in a care home, where staff can provide assistance in the event of a fire.
- 17.17 In circumstances where vulnerabilities are known to exist before residents are placed in supported housing, those responsible for the safety of the residents (commissioning groups and care providers) should consider whether additional fire safety measures are necessary before placement.
- 17.18 As stated earlier, the use of a person-centred approach (see Part D of this guide) may enable measures to be put in place for an individual in their own accommodation to reduce this vulnerability. Such measures may include, for example, installing a fire suppression system within their accommodation.

## 18. Compartmentation

- 18.1 In blocks of flats used for specialized housing, compartmentation is a key element in supporting the 'stay put' evacuation strategy that is commonplace in such housing. A compartment is simply a part of a building bounded by walls and floors that will resist the passage of fire for a specified period of time. The fire resistance of this construction is such that, normally, a fire will burn itself out before spreading to other parts of the building (unless there is an abnormal fire load within a flat or defects in compartmentation). Fundamental to the fire safety design in such housing is that every flat is a separate compartment.
- 18.2 The building's elements of structure are required to possess sufficient fire resistance when exposed to a fire of predicted severity to not only prevent fire spread, but also to prevent structural collapse for a reasonable period.
- 18.3 In specialized housing that takes the form of a single dwelling, such as commonly found in supported housing, there is unlikely to be the same compartmentation as in a block of flats. However, there is still a need to provide protected escape routes that will remain safe for residents to use during the time that, based on residents' characteristics, is anticipated to be required for evacuation.

## 19. Evacuation strategy

- 19.1 Compartmentation requires a higher standard of fire resistance than that normally considered necessary simply to protect the escape routes. This is to ensure that a fire should be contained within the flat of fire origin. Accordingly, residents of those flats remote from the fire are safe to stay where they are. Indeed, in the majority of fires in blocks of flats, residents of other flats never need to leave their flats.
- 19.2 This is the essence of the 'stay put' principle that underpins the fire safety design in blocks of flats and which applies equally to those blocks used for sheltered and extra care housing. Accordingly, the evacuation strategy is such that only those at immediate risk need to escape i.e. those within the flat of fire origin, but those remote and unaffected by the fire can remain in their flats.
- 19.3 While in those schemes with communal rooms such as lounges, it is clearly appropriate to evacuate these rooms and other common areas immediately, the 'stay put' principle enables avoidance of the potential disruption and risk from unnecessarily evacuating other residents. Residents who are not in their flats when the communal fire alarm system operates should not return to their flats, but should proceed immediately to a place of safety. While, ultimately, this may need to be an assembly point outside the building, where there is a relatively safe area, such as a communal lounge on the ground floor, this can be a suitable area in which residents may assemble to avoid exposing vulnerable residents to inclement weather, provided that safe escape from the lounge will be possible (e.g. via an exit direct to open air).
- 19.4 In houses used for supported housing, the fire safety design is also based around providing suitably protected means of escape to enable residents to leave in safety. However, as there is normally no compartmentation that would support a 'stay put' policy, an evacuation strategy, whereby everyone leaves simultaneously, is adopted. This requires a means to alert all of these residents to the need to evacuate, i.e. a fire detection and alarm system.

## 20. 'Stay put' policy versus simultaneous evacuation

- 20.1 The alternative to simultaneous evacuation is a 'stay put' policy. A 'stay put' policy involves the following approach:
- When a fire occurs within a flat, the occupants alert others in the flat, make their way out of the building and summon the fire and rescue service.
  - If a fire starts in the common parts, anyone in these areas makes their way out of the building and summons the fire and rescue service.
  - All other residents not directly affected by the fire would be expected to 'stay put' and remain in their flat unless directed to leave by the fire and rescue service.
- 20.2 It is not implied that those not directly involved should be prevented from leaving the building if they wish to do so. Nor does the policy preclude those evacuating a flat that is on fire from alerting their neighbours so that they can also escape if they feel threatened.
- 20.3 While simultaneous evacuation is typically applied to houses used for supported housing, it is not applied to sheltered or extra care housing, unless (unusually) there is inadequate compartmentation to support a 'stay put' policy. In purpose-built blocks of flats, experience has shown that most residents do not need to leave their flats when there is a fire elsewhere. Indeed, in some circumstances, they might place themselves at greater risk, or hinder fire-fighting operations, when they do so. As most sheltered and extra care housing schemes are, effectively, purpose-built blocks of flats, a 'stay put' policy is applicable for this type of accommodation.
- 20.4 However, inevitably, fires do occur in which, for operational reasons, the fire and rescue service decides to evacuate residents from other flats in the building. Fortunately, these are rare. In specialized housing blocks, the time it takes to evacuate other residents is likely to be longer than in the case of general needs blocks. For this reason, the early attendance of the fire and rescue service is especially important in the case of specialized housing. This highlights a key difference between specialized housing blocks and those used for general needs accommodation. In sheltered and extra care housing, remote monitoring of fire alarm signals, whether emanating from the domestic smoke and heat alarms within a flat or from any communal fire alarm system (see Section 21) forms a significant part of the fire strategy for such accommodation.
- 20.5 Given the nature of some residents in sheltered and extra care housing and the increased vulnerability of some of these residents in the event of fire, some enforcing authorities and fire risk assessors have taken the view that these buildings should be evacuated simultaneously; sometimes this arises from inappropriate design of a communal fire detection and alarm system. There is then sometimes an incorrect expectation that those who manage such buildings should have procedures whereby staff provide the necessary assistance to evacuate residents and to ensure that they are accounted for.
- 20.6 Such a view fails fully to recognize the nature of such accommodation and the very limited role of staff (if any) in assisting residents to evacuate. While some schemes may be staffed with, for example, a scheme manager, such a person might not be present at the time of a fire, nor could they, in any case, single-handedly assist all residents to evacuate. Resident staff are now much less common than in previous times and, in any case, they may not be on duty at the time of a fire. Even where

there are day time staff, there can be no guarantee that they will be present throughout the day, as increasingly such staff work part time and are often responsible for more than one scheme; indeed, in many schemes, there may only be visiting staff such as housing officers, who are present for limited hours.

- 20.7 Simultaneous evacuation has also sometimes been advocated in sheltered and extra care housing schemes designed to support a 'stay put' policy because of concerns over the reliance on compartmentation in such buildings. Based on experience and statistical evidence from fires in such buildings, this is considered unduly pessimistic. Resolving concerns and addressing deficiencies in relation to compartmentation is more appropriate than changing the evacuation strategy. Equally, a precautionary approach that suggests abandonment of a 'stay put' policy simply because of difficulties in verifying compartmentation is similarly inappropriate.
- 20.8 Even in extra care schemes, in which it is normally the case that personal care staff will be present on a 24-hour basis, there are insufficient staff to effect evacuation of all residents. While undoubtedly any member of staff present at the time of a fire would, to the extent that they are able, assist a resident in moving away from danger, there is no suggestion that they can effect evacuation of all other residents, particularly after smoke has entered the escape routes. However, they can play a vital role in filtering out false fire alarm signals, so indirectly facilitating more extensive use of smoke detectors, and, subject to early enough warning of fire, might be able to assist a resident to leave a flat in which there is a fire, while not putting themselves at undue risk.

## 21. Fire detection and alarm systems

- 21.1 Early warning of fire is essential to ensure that residents can evacuate quickly and safely from their accommodation in the event of fire. The success of domestic smoke alarms in reducing the number of casualties in fires in dwellings is well recognized. Provision of appropriate smoke and heat detection is a critical component of fire safety design in all specialized housing. In the case of flats in sheltered and extra care housing, extensive provision of smoke and heat alarms should be provided in all new schemes and should be an objective for existing schemes. Where this is not present, it can also be part of the additional protection emanating from a person-centred risk assessment. In supported housing, extensive provision of automatic fire detection should already be present in existing properties.
- 21.2 As discussed above, a key difference between blocks of flats used as specialized housing and general needs blocks is the need to ensure earlier attendance by the fire and rescue service in the event of fire in specialized housing. This to ensure early extinguishment of a fire and thus reduce the likelihood of the need to evacuate other residents. In addition, to the extent that the fire and rescue service need to instruct other residents to evacuate, they can do so at an earlier stage than otherwise would be the case, so compensating for the slower response of older and mobility impaired people.
- 21.3 The fire detection within a flat has a significant part to play in this respect. Early attendance by the fire and rescue service is achieved by arranging for remote monitoring of this detection at an alarm receiving centre, normally via a social alarm ("Telecare") system.

- 21.4 It is also achieved by remote monitoring of fire alarm signals from communal systems, where these are present. Although purpose-built blocks of flats are not normally provided with communal fire detection and alarm systems, sheltered housing and extra care housing are examples of special cases in which such systems are often provided because of the presence of communal facilities, such as lounges, that are not present in general needs blocks. These systems normally extend throughout most, or all, of the common parts of the building.
- 21.5 There will be cases where no communal fire detection and alarm system is needed. This is the case in sheltered housing schemes in which there are no common facilities such as lounges, and the building resembles a typical block of flats. However, there may still be a need for some detection to operate smoke control arrangements, such as automatically opening vents, but these detectors do not then trigger any operation of fire alarm sounders.
- 21.6 Where there is a communal fire alarm system in sheltered and extra care housing, while an alarm would be raised in common parts of the building (e.g. the lounge and the common corridors), the purpose of such a system is not to alert the occupants of flats such that they evacuate the building simultaneously, thus undermining the 'stay put' policy that is in place.
- 21.7 It is feasible for a single fire detection and alarm system to meet the objectives of local warning for residents of flats, warning for those in the common areas of a fire starting in such an area and early summoning of the fire and rescue service by remote monitoring of fire alarm signals. However, in practice, given that the system will include smoke detectors within the flats, there is a need for filtering of fire alarm signals by an on-site scheme manager (when present) and an alarm receiving centre (when there is no scheme manager on site); otherwise false alarms from smoke detectors would impose a burden on fire and rescue services.
- 21.8 In contrast with sheltered and extra care housing, a communal fire detection and alarm system will always be necessary in supported housing, as its purpose is to warn that residents need to make their escape immediately.
- 21.9 The ability to manage a fire alarm system is a key consideration where such systems are provided. It is unlikely that allowing residents to silence and reset a system will be appropriate in these circumstances. It is particularly important that residents understand how to respond to fire alarms, and it is vital that they have a means to contact someone who can respond quickly if the system is activated when there are no staff on site; in some supported housing, residents might not be capable of such understanding, in which case there will be reliance on their carers to respond to alarm signals.

## **22. Other fire safety measures**

- 22.1 There should be adequate illumination of escape routes to be able to use the escape routes even if fire causes damage to the electricity supply in the building. This means that, other than in limited cases, all specialized housing should be provided with emergency escape lighting.
- 22.2 Similarly, fire exit signs might need to be displayed to assist in the use of an escape route with which people are unfamiliar. However, care is necessary to avoid an unduly institutional ambience. In specialized housing with a simple layout (e.g. in a building with a single stairway), it is unlikely that there would be a need for such

signs. It is not usually considered necessary to signpost the route that residents normally use to gain access to their accommodation.

- 22.3 In sheltered and extra care housing, the provision of fire extinguishers and other forms of fire-fighting equipment in common parts is usually inappropriate. It is not expected that residents should need to tackle a fire to make their escape, nor should untrained people in specialized housing be expected to fight a fire. Nevertheless, portable fire extinguishers should be provided in all common facilities, such as laundries and communal lounges, ancillary accommodation and any commercial premises within the block, such as hairdressers. They should also be provided in plant rooms and other such rooms, for use by the staff and contractors.
- 22.4 This does not preclude residents from having their own fire extinguishers and fire blankets, albeit consideration of the ability of some residents to use such equipment may suggest otherwise. It may be appropriate for those responsible for the operation of the scheme to consider this during the process of engaging with residents, and educating residents on fire safety
- 22.5 Similar considerations apply to supported housing, in that it would be considered inappropriate to expect residents to tackle fires, but provision of extinguishers for use by staff will normally be appropriate.

## **23. Fire-fighting**

- 23.1 In specialized housing, it is not common to find special facilities, such as fire-fighting stairs and lifts, for use by the fire and rescue service. However, in some sheltered and extra care housing blocks, fire mains by which the fire and rescue service can obtain water are sometimes provided if the size of the building is such that particularly long lines of hose would be needed.
- 23.2 Normally, the presence (or indeed absence) of these facilities has no direct bearing on the evacuation strategy of the building. Nor would it normally be appropriate to seek improvements to such facilities to address issues relating to escape route design and compartmentation in such buildings. However, the facilities do aid the speed with which fire-fighting action and rescue by the fire and rescue service can occur.

## **24. Benchmark standards**

- 24.1 The assumptions and principles outlined above have always underpinned fire safety design standards for specialized housing and are still considered to be valid. However, while many of the design principles have not changed, there have been changes in the benchmark standards that are applied.
- 24.2 It is generally recognized that to impose current guidance for new buildings retrospectively to existing buildings is inappropriate. Nevertheless, current guidance can be considered when setting benchmarks against which to assess the adequacy of fire protection within existing buildings.
- 24.3 However, it should be recognized that benchmarks are intended simply to make comparisons. Judgement is needed by fire risk assessors, enforcing authorities and others when reviewing fire safety in a particular building. It will often need to be accepted that it is neither realistic to meet current benchmark standards, nor risk

proportionate to impose many of the solutions available today to the situations found in the design of existing buildings.

- 24.4 It is recognized that, with older buildings, it can sometimes be difficult to discern what the original design intent was, and whether it has been preserved or altered subsequently. Similarly, it can also be difficult to determine what standard has been achieved, especially in relation to compartmentation, given that some of the relevant elements of structure are often hidden and inaccessible.
- 24.5 Nevertheless, it is considered essential, when assessing the adequacy of fire protection in existing buildings, to endeavour to determine the benchmark standards that applied when the block was built and the impact of any significant change in occupancy. It is important to establish just how far removed the original standards are to what is considered acceptable today, and whether this has given rise to an unacceptable level of risk.
- 24.6 This is needed to inform decisions regarding the need or otherwise to upgrade fire protection when considering the fire risk in a particular building.
- 24.7 Guidance on appropriate benchmark standards is given in Part H of this guide.

## **25. Developments in fire safety technology and practice**

- 25.1 There have been developments in fire safety technology and practice since some existing specialized housing was originally built. In some cases, this has resulted in new approaches to certain elements of fire safety design, for example in relation to the operation of smoke control systems and in relation to the extent of coverage of smoke and heat alarms in flats occupied by residents of specialized housing.
- 25.2 A key development has been the use of sprinkler systems. Systems specifically intended for domestic and residential premises have been developed, along with appropriate standards to govern their use. Watermist systems are also now available. These too have been developed for domestic and residential applications as well as for more commercial and industrial applications. These fire suppression systems are now regarded as one possible means of addressing concerns relating to particularly vulnerable residents in specialized housing. A further benefit of these systems is that, in some circumstances, they can permit greater devotion of fire and rescue service manpower to tasks other than fire-fighting (e.g. assistance with evacuation, rescue and attention to any injured person).
- 25.3 The extent to which such developments in technology can, and should be, taken into account when assessing existing specialized housing needs to be considered carefully. For example, given the nature of the residents in specialized housing, it is unlikely that open plan flat layouts will be appropriate in such buildings even if sprinkler or watermist protection is provided. Strategies to address shortcomings in fire safety should be proportionate to the risk. This is a key principle in fire risk assessment (see Part E of this guide).
- 25.4 While increasing the coverage of smoke and heat alarms can easily be undertaken, other fire safety technology cannot always readily be applied to existing buildings without significant cost. Retrofitting sprinkler or watermist systems in existing buildings, while technically feasible, is not likely to be risk proportionate. Nevertheless, this does not preclude their use where there is clear justification and



appropriate consideration of the practicalities of their installation and subsequent maintenance.

- 25.5 For example, a person-centred approach may identify value in such systems to protect individual residents who are deemed especially vulnerable. It is possible to provide a domestic fire suppression system in a single flat. However, sprinkler or watermist systems, if installed throughout a building, provide an effective means of 'future proofing' the building should there be an increase in the number of vulnerable residents. Accordingly, it is strongly recommended that sprinkler or watermist protection be provided in all new sheltered and extra care housing. Such protection might also be appropriate in some supported housing, in which there are severe difficulties in evacuation of residents.

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# Part C: The law governing fire safety in specialized housing

## Key Points

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- None of the premises to which this guide applies should be treated as a residential care home.
- In Wales, it is required that new build specialized housing, or new conversions to which the Building Regulations 2010 apply, be sprinkler protected. This does not apply in England or Northern Ireland.
- When newly built, or converted, specialized housing is handed over, it should be ensured that adequate fire safety information is provided to the Responsible Person.
- Material alterations to existing specialized housing, including alterations within residents' accommodation, are controlled under the Building Regulations 2010, and need to be approved by a building control body, otherwise an offence is committed.
- Even if conversion of a property to specialized housing does not require approval under the Building Regulations (e.g. if the use of a block of flats is changed from general needs housing to sheltered housing, without any structural changes, or if an existing HMO is used specifically to accommodate vulnerable adults), it should be ensured that fire precautions are upgraded as appropriate.
- All residents need to be made aware of the importance of maintaining in place the fire safety measures required by legislation at the time of construction or conversion.
- Alterations by residents within their own accommodation may not only put those residents at risk, but also other residents.
- Even if specialized housing satisfied earlier legislation, proposed alterations must be considered in the light of the current Building Regulations; it is not sufficient to carry out alterations on the basis of the earlier legislation (though alterations that do not make a non-compliance with current standards less compliant might not need approval).
- Under the Housing Act 2004, the housing authority must inspect properties if they become aware of significant fire hazards. Housing authorities have powers of entry for this purpose.
- The housing authority may make requirements for improvements in fire precautions or to prohibit the use of unsafe accommodation. In the event of imminent risk of serious harm, the housing authority has the power to take emergency remedial action.
- Some supported housing (but not sheltered or extra care housing) may constitute a house in multiple occupation, to which special regulations apply.
- The Regulatory Reform (Fire Safety) Order ("the FSO") applies to all common parts, and non-domestic parts of specialized housing in England and Wales, but not to the individual private accommodation of residents. However, measures within residents' accommodation may fall within the scope of the Order. Examples are fire-resisting doors to residents' accommodation and fire detection within the accommodation, in

conjunction with remote monitoring of the detection in sheltered and extra care housing. The FSO does not apply in Northern Ireland.

- The FSO imposes duties on persons who may include freeholders, landlords, managing agents, care providers and contractors who maintain fire safety measures and those who carry out fire risk assessments. Where there are multiple duty holders, there is a need for mutual co-operation and co-ordination of responsibilities to ensure all requirements of the FSO are satisfied.
- Legislation requires that fire safety measures must be adequately maintained.
- An offence is committed if inadequate fire safety measures place people at risk of death or serious injury in case of fire.
- The role of enforcing authorities is to “police” the legislation, rather than to act as consultants to duty holders. However, fire and rescue services have a duty, and are able, to provide advice on fire safety, particularly to vulnerable residents and those responsible for their care.
- Housing providers with properties located in a number of fire and rescue authority areas may enter into a Primary Authority Scheme with one fire and rescue authority. This assists in consistent enforcement and provides the housing provider with confidence that their fire safety provisions will be adequate throughout their estate.
- Compartmentation within roof voids is likely to fall within the scope of legislation (whether the FSO or the Housing Act).
- In enforcement, consideration should be given to the legislation that will most easily “get the job done”, sometimes necessitating co-operation between enforcing authorities.

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## 26. Introduction

- 26.1 Ultimately, interpretation of legislation is a matter for the Courts. There is very little case law to determine the way in which some of the legislation to which this section of the guidance refers should be applied to certain types of housing within the scope of this guide. However, this section sets out the considered opinions of CFOA and the stakeholders responsible for this guide.
- 26.2 The scope of the types of housing to which the guidance in this document applies is broad, but a common factor is that the living accommodation provided for residents is effectively the sole long-term home of the residents. This means that, for the purpose of applying legislation, most of the premises, including all types of sheltered housing and extra care housing, can be treated as blocks of flats or may, in some cases, be regarded as houses in multiple occupation.
- 26.3 None of the premises within the scope of this guide should, in applying fire safety legislation, be treated as residential care homes, children's homes or hostels, all of which are outside the scope of this guide. This means that the units in which residents are accommodated should normally be treated as their private homes, subject to certain legal requirements for measures within flats to protect residents in flats beyond that in which a fire starts.
- 26.4 The legislation to which this guide refers is that applicable in England and Wales. Building Regulations in Northern Ireland are generally similar to those in England and Wales, but none of the other legislation in this Part applies in Northern Ireland; in particular, the common parts of sheltered housing do not fall within the scope of fire legislation in Northern Ireland. This guide does not apply to Scotland, for which equivalent guidance will be produced soon after the publication of this guidance. Those operating specialized housing in Scotland as well as elsewhere in the United Kingdom should note that different legislative requirements might apply in Scotland. For example, since 2004, under building regulations in Scotland, it has been required that all new sheltered and extra care housing is protected throughout by a sprinkler or alternative fire suppression system. There is no equivalent requirement in England, though, since 1 January 2016, there has been an equivalent requirement in Wales.

## 27. Care Legislation

- 27.1 The scope of this guide excludes residential care homes and children's homes registered in England by the Care Quality Commission (CQC) under the Health and Social Care Act 2008 and associated Regulations (and equivalent registration in Wales). The FSO applies to these premises in their entirety, and reference should be made to guidance published by the Department for Communities and Local Government on fire safety risk assessment in residential care premises.
- 27.2 However, provision of care in premises to which this guide applies is a regulated activity under the above legislation, so falls within the scope of CQC registration (or, in Wales, registration by the Care and Social Services Inspectorate Wales). The registration applies to the care provider, not the provider of the accommodation. Fire safety is outside the scope of registration, but, where there is a housing provider and a separate care provider (e.g. in extra care housing), there needs to be co-operation between these parties to ensure safety of residents and compliance with the Regulatory Reform (Fire Safety) Order 2005 (see Section 30). See also Section 88 of this guide.

## 28. Building Regulations

- 28.1 When specialized housing is first designed and constructed, the Building Regulations make requirements for various fire safety measures, including means of escape, means of giving early warning of fire, structural fire precautions and facilities for the fire and rescue service. Where specialized housing takes the form of a block of flats with common parts, compliance with the Regulations also necessitates measures for smoke control. In the case of sheltered housing, compliance also necessitates monitoring of smoke detection in, at least, the flats.
- 28.2 In some circumstances, conversion of a building to specialized housing may constitute a material change of use for the purpose of the Building Regulations (e.g. if the building was not previously residential accommodation or if the number of dwellings or rooms used for residential purposes changes). Even if the conversion did not constitute a material change of use, the conversion work would commonly involve changes to means of escape or a fire detection and alarm system, such as to constitute a material alteration.
- 28.3 The construction, extension, material alteration or material change of use of a building requires approval by a building control body, namely the building control department of the local authority or, in England and Wales, a private-sector Approved Inspector. The fire strategy (i.e. the fire safety measures proposed at the design stage) approved by the building control body might be of value in carrying out a fire risk assessment (see Part E) or when alterations of the premises are planned. If the building is reasonably modern, the strategy might be available from the original building control body. Under Regulation 38 of the current Building Regulations, for premises to which the Regulatory Reform (Fire Safety) Order 2005 applies (see Section 30), a package of fire safety information regarding the relevant fire precautions for the premises must be given to the Responsible Person at the completion of a building project or when the building or extension is first occupied.
- 28.4 It is important to understand the relevance of the current Building Regulations to alterations. Inappropriate and unauthorised alterations can undermine the measures provided to ensure safety of occupants from fire, particularly if these do not take into account special requirements incorporated to take account of the vulnerability of residents in specialized housing, such as monitoring of smoke detection in sheltered and extra care housing. 'Material alterations' must be approved by a building control body. However, there are no requirements under the Building Regulations for servicing or maintenance of fire safety provisions.
- 28.5 It can sometimes be difficult for the Responsible Person to judge whether or not an alteration is material. In practice, any proposals to carry out alterations – to fire alarm systems, means of escape or smoke control arrangements, structural alterations and alterations to facilities for the fire and rescue service – should be submitted to a building control body to determine if approval is necessary (and, if so, to obtain approval of the proposals) under the Building Regulations. Even if an alteration does not need approval under the Building Regulations, care is needed to ensure that it does not undermine any specific requirements of an original fire strategy intended to address the vulnerability of residents.
- 28.6 It should be noted that quite minor alterations and building works can often result in a contravention of the Building Regulations, which is an offence under the Building Act 1984. For example, removal of cross-corridor fire doors or replacement of a

fire door within a flat by a non-fire-resisting door would normally result in such a contravention, as might removal of monitoring of smoke detection in sheltered and extra care housing. Prosecution proceedings for such offences can be instituted for 24 months after completion of the unauthorised work.

- 28.7 A common contravention is the replacement of a self-closing, fire-resisting flat entrance door by a non-fire-resisting door or by a door that is not self-closing. This is a particularly serious contravention as it may place other residents at serious risk if a fire occurs in the flat in question. This highlights the importance of making residents (particularly those in leasehold flats) aware of their responsibilities to maintain in place the fire precautions originally required under the Building Regulations at the time of construction of their building.
- 28.8 There is no requirement under the Building Regulations for upgrading existing fire safety measures to current standards. However, existing non-compliances with the current Building Regulations must not be made any worse in the course of alterations or building works.
- 28.9 Powers also exist under the Building Act 1984 to require unauthorised material alterations to be rectified by the owner of the property if a breach of the Regulations resulted from the work. These powers only exist for 12 months after the work has been carried out. However, at any time, an application can be made, under the Building Regulations, to the local authority building control for 'regularisation' of unauthorised work carried out after 1985, enabling retrospective approval to be granted, subject to the work being satisfactory.

## 29. Housing Act 2004

- 29.1 The Housing Act 2004 makes requirements regarding the condition of a broad spectrum of housing, including both individual dwelling units (e.g. flats in sheltered housing and residents' accommodation within supported housing) and the common parts of the building (i.e. all parts of buildings to which this guide applies). Local housing authorities are the enforcing authority for this legislation.
- 29.2 Assessment of the safety of residents in dwelling units is carried out by means of the Housing Health and Safety Rating System ('HHSRS') specified in the Act. The purpose of the HHSRS is to provide a means of assessment that identifies hazards and allows a judgement to be made as to whether the consequent risk to people is acceptable. A total of 29 hazards, including the hazard of fire, must be considered in carrying out the HHSRS. The assessment is carried out on each individual dwelling unit, rather than the entire premises as a single building. The assessment for each dwelling considers risks within the dwelling, from adjoining dwellings, and in effecting escape through the common parts of the building to the street.
- 29.3 In applying the HHSRS, the local authority will make judgments about fire hazards that take into account the vulnerability of residents to the hazards, particularly vulnerability as a result of age (rather than registered disability), regardless of whether people of advanced age are actually living in the property at the time. Accordingly, the HHSRS is not necessarily a sufficient tool to identify special needs of residents with disabilities (for whom a person-centred fire risk assessment may be necessary-see Part D), but is effective in identifying hazards to older occupiers generically. Hazards can arise from the original design, wear and tear or lack of care and repair. For example, a badly maintained ceiling could be deemed to be a hazard as a result of potential for fire and smoke to spread beyond the room in

which a fire starts. This can also apply to a poorly fitting door within a dwelling, which might allow smoke to affect escape routes within the dwelling before people can escape.

- 29.4 Assessed hazards are classified under the Act as either Category 1 or Category 2, according to the extent of risk to the most vulnerable occupants. In the case of fire, these are deemed to be adults over 60 years of age. Category 1 hazards create greater risk than Category 2 hazards. If a local housing authority becomes aware that a Category 1 or Category 2 hazard may exist, they are obliged to carry out an inspection.
- 29.5 If it is confirmed that a Category 1 hazard exists, the housing authority have a duty to take one of a number of possible enforcement actions. (However, the local authority cannot take enforcement action against itself.) Enforcement actions include the serving of various forms of notice, which may require the person on whom the notice is served to take remedial action, or may prohibit the use of the building or part of the building. In the case of imminent risk of serious harm, the housing authority may, itself, take emergency remedial action.
- 29.6 In the case of Category 2 hazards, a local authority has discretion to issue the notices described above. However, for these hazards, there is no power to take emergency remedial action.
- 29.7 The Housing Act 2004 is, therefore, a powerful tool that may be used to require improvements in fire safety within dwellings and units of accommodation to which other legislation might not apply. This is an example in which multi-agency co-operation can assist in addressing risk to vulnerable people from certain inadequate fire precautions that result in identifiable fire hazards. Local authorities will respond to complaints from other agencies in this respect, such as fire and rescue authorities, social services, care providers, etc, who have other reasons to engage with residents. Complaints to the local authority may also be made by other residents, relatives and the vulnerable residents themselves.
- 29.8 A person on whom a notice is served has the right of appeal to the First Tier Tribunal.
- 29.9 Some housing to which this guide applies may be regarded as houses in multiple occupation (HMOs) for the purpose of the Housing Act 2004. This is unlikely to apply to purpose-built sheltered or extra care housing, but may apply to certain single-family dwelling houses that have been converted into supported living accommodation. The Housing Act 2004 makes specific requirements in relation to HMOs.
- 29.10 For the purpose of the Housing Act 2004, a property is an HMO if it is rented out by at least three residents who do not form a single household (e.g. partners, a family or blood relatives) and share facilities, such as a toilet, bathroom or kitchen.
- 29.11 Under Section 257 of the Act, a building converted into self-contained flats is also an HMO if the conversion was carried out prior to 1 June 1992, the property would not comply with the Building Regulations that were in force from 1 June 1992 and less than two-thirds of the flat are owner-occupied. (These are commonly described as Section 257 HMOs.)

- 29.12 The application of the Housing Act to HMOs is complex. Where there is uncertainty as to whether housing within the scope of this guide must be regarded as an HMO, there should be consultation with the local authority.
- 29.13 Under the powers of the Housing Act 2004, regulations have been made regarding the management of HMOs. These take the form of the Management of Houses in Multiple Occupation (England) Regulations 2006 and the Licensing and Management of Houses in Multiple Occupation (Additional Provisions) (England) Regulations 2007 (and equivalent regulations in Wales). These Regulations impose duties on managers of HMOs to take safety measures, including maintenance of escape routes, fire alarm systems, fire-fighting equipment and escape signs.
- 29.14 Mandatory licensing of HMOs by the local authority applies to HMOs that comprise three or more storeys and are occupied by five or more people living as two or more households. Under powers granted to local authorities, where mandatory licensing does not apply, licensing may be required by the local authority in certain geographical areas if it is considered by the Council that a significant proportion of HMOs in that area are causing problems for tenants or the neighbourhood due to poor management. (This is known as “additional” licensing.) Similarly, the local authority may require licensing of properties in an area of low housing demand or an area that experiences significant and persistent problems of anti-social behaviour that landlords are failing to combat appropriately. (This is called “selective” licensing.) Information on both additional and selective licensing schemes can be obtained from the local authority for the area in which the premises are situated.

### **30. Regulatory Reform (Fire Safety) Order 2005**

- 30.1 The Regulatory Reform (Fire Safety) Order 2005 (the ‘FSO’) does not apply to individual private dwellings and units of accommodation, other than in respect of measures installed within that accommodation as part of the building-wide fire strategy to protect residents of other accommodation. However, the FSO does apply to common parts and ancillary accommodation within sheltered and extra care housing, and to the common parts and staff accommodation of supported housing in which residents live independently within their own units of accommodation; such staff accommodation will normally constitute a workplace, as it is not the normal residence of any employee. Where residents share a single house, in which all residents live in the manner of a single household, the FSO might not apply to any part of the property (other than, possibly, staff facilities).
- 30.2 The FSO does apply to workplaces within specialized housing. For example, these can include a room used by a scheme manager or support workers, a plant room or commercial premises, such as a hairdressing salon in sheltered housing, but not private accommodation of residents, even though support and care staff may carry out duties within the accommodation.
- 30.3 The FSO imposes requirements and duties on the ‘Responsible Person’. In the case of specialized housing that is not a workplace, the Responsible Person is the person having control of the premises. However, within a workplace, the Responsible Person is the person who employs people to work there, so, if more than one party employs people to work in the premises, there can be more than one Responsible Person. Commonly, the Responsible Person is, therefore, not a named individual, but a company or organization.



- 30.4 Typically, the Responsible Person is a landlord, housing provider, management company, care or support provider or freeholder; in any single building, there might be several Responsible Persons (e.g. because there might be more than one employer). Moreover, responsibilities and duties imposed on the Responsible Person also apply to any other person having control of the premises. These other duty holders include anyone who, *“under a tenancy or contract, has a responsibility for maintenance or repair of the premises, maintenance or repair of anything in or on the premises, or for the safety of the premises”*. This can include a wide variety of people, including, again, a management company, but also fire risk assessors and contractors who maintain fire protection equipment, who may commit offences if they do not carry out their work properly. Additionally, in supported housing, where funding levels for support are controlled by persons other than the care provider (e.g. commissioning groups) those persons might be regarded as duty holders under the FSO by control over the number of persons nominated to assist with evacuation..
- 30.5 In some premises, it can be difficult to determine whether a particular party should be regarded as the Responsible Person or as, alternatively, a person on whom duties are imposed by virtue of a tenancy or contract. However, to bring prosecution proceedings against a person or organization, it is only necessary for the fire and rescue authority to establish that the person or organization had duties imposed upon them by the FSO, which they failed to carry out, so resulting in the risk of death or serious injury of one or more relevant persons; it is not always necessary to establish whether the duties arose because the potential defendant is the Responsible Person or because they were another duty holder.
- 30.6 Other than any part of specialized housing that is a workplace, the responsibilities and duties imposed by the FSO are limited to matters over which the person has control. Sometimes, flat entrance doors may be in the sole control of the resident. For example, often, in “retirement housing” (which, normally, is simply a form of sheltered housing), the door is part of the leaseholder’s premises and so responsibility for maintenance of the flat entrance door rests with the leaseholder. The landlord, freeholder or management company might then have no legal right to force a leaseholder to upgrade the door to the current standard, nor to carry out the works unilaterally.
- 30.7 However, in case of impasse, the matter should be referred to the relevant enforcing authority, such as the fire and rescue authority or the local housing authority. Action under the Housing Act against the flat leaseholder is most likely to “get the job done” in these circumstances. Ideally, in any new leases, freeholders should retain the right to carry out work on leaseholders’ flat entrance doors and fire warning arrangements on which the safety of other residents depends.
- 30.8 The FSO imposes a general duty of fire safety care in respect of “relevant persons”. This includes anyone lawfully on the premises (and anyone in the immediate vicinity of the premises who could be at risk from a fire in the premises). This does not necessarily imply that the FSO requires the provision of staff to evacuate residents in the event of fire, particularly in sheltered and extra care housing. The duty is primarily to ensure that the fire safety measures within the common parts, plant rooms, and so forth are such as may reasonably be required in the circumstances of the case to ensure that the premises are safe. (If any part of the specialized housing is a workplace, the fire safety measures must, so far as

is reasonably practicable, ensure the safety of the employees.) For the purpose of the FSO, fire-fighters attending a fire are not relevant persons.

- 30.9 Residents are relevant persons, even when they are inside their own accommodation. They are relevant persons because they are in the immediate vicinity of the common parts, so, for the purpose of the FSO, the overall fire strategy for the building must ensure the safety of residents from a fire that starts elsewhere than their own accommodation.
- 30.10 The fire safety measures within the common parts, that must be adequate for compliance with the FSO, comprise the following.
- Measures to reduce the risk of fire and the risk of spread of fire.
  - The means of escape from fire.
  - The measures necessary to assist people in the use of the escape routes, such as emergency escape lighting, fire exit signs and, in flats, measures for smoke control. (Some of these measures may not be necessary in all buildings: for example, where escape routes are straightforward, easily identifiable and likely to be well-known to occupants, fire exit signs will normally be unnecessary.)
  - Where necessary, fire extinguishing appliances. (These are not normally necessary within common parts, but might be necessary within a plant room, support workers' office or other non-domestic parts of the premises.)
  - Any fire alarm system necessary to ensure the safety of occupants.
  - An emergency plan. (In small premises, this may be as simple as a fire action notice, but it is important that the procedure to adopt in the event of fire is disseminated to all residents.)
  - Maintenance of all of the above measures.
  - Maintenance of measures required by legislation (including the Building Regulations) for the safety of, or use by, fire-fighters.
- 30.11 Although residents' accommodation is outside the scope of the FSO, certain fire precautions within one resident's accommodation are commonly necessary for protection of other residents; as such, removal, disablement or lack of maintenance of such measures is likely to contravene the FSO. An obvious example is fire detection within residents' accommodation, which is not solely intended to warn residents of a fire in their own accommodation. In specialized housing with a simultaneous evacuation strategy (such as is normally the case in a house that is used for supported living for a number of people with learning disabilities or mental health problems), the detection is needed to initiate evacuation of all residents. In sheltered and extra care housing in which a "stay put" policy applies, the detection **and** its monitoring are intended to result in the early attendance of the fire and rescue service in the event of fire.
- 30.12 The FSO requires that the appropriate fire safety measures are determined by means of a fire risk assessment. The fire risk assessment must be "suitable and sufficient" to ensure that the general duty of fire safety care is satisfied within the common parts. This fire risk assessment does not address the safety of residents from fire within their own accommodation, but does need to consider, generically, the nature of residents. This is particularly the case in premises in which a "stay put" strategy is not adopted, but, even where such a strategy exists (e.g. in

sheltered and extra care housing), the fire risk assessment should consider arrangements for provision of information to fire-fighters in respect of all residents who may have difficulty in evacuation (e.g. in an information box adjacent to the fire alarm control panel).

- 30.13 If the Responsible Person or person having control of the premises employs five or more persons in their organization (regardless of where they are employed), the significant findings of the fire risk assessment must be recorded. (Documentation of the assessment is also required if this is made necessary by an alterations notice issued by the enforcing authority.) In this case, the fire safety arrangements must also be recorded. This is part of the requirement to have in place arrangements for the “effective planning, organization, control, monitoring and review of the preventive and protective measures”.
- 30.14 The FSO is normally enforced by the fire and rescue authority, who carry out inspections to audit compliance with the order. If the fire and rescue authority identify a breach of the FSO, they will notify the Responsible Person, and may issue an enforcement notice requiring that steps be taken to remedy the breach. In the case of serious risk, a prohibition notice, prohibiting or restricting the use of the premises, may be issued.
- 30.15 A person on whom a notice is served has the right of appeal to the Magistrates’ Court for 21 days after service of the notice. Alternatively, if the Responsible Person and the fire and rescue authority cannot agree on the measures necessary to remedy a breach of the FSO, the two parties may agree to refer the matter for a determination by the Secretary of State. The Secretary of State’s decision is binding on the fire and rescue authority.
- 30.16 Failure to provide adequate fire safety measures is an offence if the failure places one or more persons at risk of death or serious injury in case of fire. Each such offence is punishable by an unlimited fine in the Magistrates’ Court, or by an unlimited fine and/or two years’ imprisonment in the Crown Court.
- 30.17 Although a resident’s accommodation does not fall within the scope of the Fire Safety Order (e.g. in respect of fire precautions necessary for protection of that resident or issue of enforcement notices), the fire and rescue authority is empowered to issue a prohibition notice prohibiting or restricting the use of any premises to which this guide applies if the authority is of the opinion that use of the premises would result in serious risk to relevant persons from fire; this includes risk arising from matters that affect means of escape from fire.
- 30.18 This means that use of individual residents’ accommodation can be prohibited, though this is extremely unusual. Before serving a prohibition notice in relation to an HMO, the fire and rescue authority must, where practicable, notify the local housing authority of their intention and the use to which they intend to prohibit or restrict. The person on whom the prohibition notice is served has a right of appeal to the Magistrates’ Court.

## **31. Role of Enforcing Authorities**

- 31.1 The role of enforcing authorities is to “police” compliance with the legislation for which they are responsible. They do not act as consultants to the duty holders under the legislation. To do so could result in a conflict of interest, in which the enforcing authority effectively acts as both “poacher and gamekeeper”.

- 31.2 Regardless of the above, under the Fire and Rescue Services Act 2004, a fire and rescue authority must, to the extent that it considers reasonable to do so, make arrangements for giving advice about means of escape from fire and prevention of fire. In the case of domestic premises (such as individual flats), advice to residents may be detailed and specific, but, in the case of the common parts, advice is unlikely to extend to detailed comments on plans or proposed alterations, which is more likely to be the role of a consultant.
- 31.3 There is no statutory duty to consult enforcing authorities in relation to fire safety, though, as noted earlier in this section, building work to which the Building Regulations apply must be approved by a building control body. Also, in relatively uncommon situations in which, in premises to which the FSO applies, there is serious risk to people from fire, or such risk might arise if changes to the premises are made, the fire and rescue authority may issue an alterations notice, requiring that they are notified before changes are made.
- 31.4 A housing provider with a large estate of premises located across numerous fire and rescue authority areas may enter into a “Primary Authority Scheme (PAS)” with certain fire and rescue authorities that operate such schemes. The housing provider enters into a single statutory partnership with a fire and rescue authority partner, which subsequently provides the housing provider with robust and reliable advice for other authorities to consider when carrying out their enforcement activities. This provides certainty to the housing provider in relation to the adequacy of their policies, procedures and fire safety measures across their estate. The PAS avoids inconsistency between fire and rescue authorities and delivers “assured advice” to the housing provider, and may include agreed fire and rescue service auditing plans. Assured advice from the PAS partner authority will be accepted by other fire and rescue authorities. PAS schemes are consistent with Government strategy for better regulation.

## 32. Overlap of legislation

- 32.1 It is obvious from the above that there is overlap between the Housing Act and the FSO. The Housing Act applies to all parts of the premises within the scope of this guide, other than non-domestic parts (e.g. offices, commercial premises, plant rooms, etc.), while any common parts also fall within the scope of the FSO (along with any non-domestic parts). A further complexity is that the safety of any common parts from fire can sometimes rely on fire safety measures within the residents’ accommodation, into which there is normally no power of entry by the fire and rescue authority. However, there is such a power under the Housing Act.
- 32.2 Common examples of the effects of fire safety measures within residents’ accommodation on the fire safety of the common parts include the following.

### **Front doors**

- 32.3 In sheltered and extra care housing, the entrance doors to residents’ accommodation are critical to the safety of the common parts in the event of a fire within the accommodation. The doors must be self-closing and afford an adequate degree of fire resistance. Where these doors are, under tenancy agreements, not the responsibility of the residents, the FSO and the Housing Act may both be used to address deficiencies, but, in many cases, it will be the FSO that is more

appropriate to apply. In supported housing, in certain situations, doors to residents' rooms may need to be fire resisting and self-closing (see Section 80).

- 32.4 In the case of existing leasehold flats (e.g. in some sheltered and extra care housing), the responsibility under the lease for maintenance of the flat entrance doors sometimes rests with the residents. In this case, the freeholder's power to arrange for defects to be rectified may be limited or non-existent, making enforcement action on the freeholder inappropriate. Under these circumstances, the residents might be regarded as other persons having control of premises (as defined by Article 5(3) of the FSO), with a duty to ensure the adequacy of the flat entrance doors. However, use of powers under the Housing Act may be a more appropriate and better defined route to achieving compliance with the FSO. In new leases, ideally the freeholder should retain control over all flat entrance doors.

### **Internal doors**

- 32.5 To protect the common parts from a fire within a flat, reliance might (albeit uncommonly) be placed on internal fire doors, forming part of a protected entrance hallway, within every flat (see Part H of this guide). In determining compliance with the FSO, it may be necessary to establish whether these doors are present. Reliance may need to be placed on the powers of the Housing Act to address deficiencies in these doors (e.g. missing doors or doors of inadequate fire resistance).

### **Ventilation systems**

- 32.6 In sheltered and extra care housing, common kitchen or bathroom extract arrangements, or common drainage service ducts, can be a route for fire spread between flats. A 'stay put' policy in such premises may be compromised by inadequate measures to prevent spread of fire via a common duct. Again, while it may be argued that some powers to address such deficiencies might exist under the FSO, there is no doubt that the powers of the Housing Act can be used for this purpose. Regardless of the legislation that applies, this matter may need to be considered in a fire risk assessment (see Part E).

### **Fire detection and alarm systems**

- 32.7 In the case of all premises to which this guide applies, fire detection and warning arrangements within residents' accommodation impact on the fire safety of other residents. In sheltered and extra care housing, the monitoring of fire detection within each flat is essential for the safety of other residents, as it supports the "stay put" strategy. In supported housing, the fire detection within one resident's accommodation will normally be essential for the simultaneous evacuation strategy normally adopted in these premises.

### **Roof voids**

- 32.8 In some circumstances, it might be argued that roof voids in specialized housing are common parts to which the FSO applies. In many of the premises to which this guide applies, compartmentation within roof voids will be an important fire precaution. For example, in sheltered and extra care housing with a 'stay put' policy, compartment walls within roof voids, continuous with the compartment walls between flats on the top storey, are essential to prevent fire spread between flats. Similarly, in a terraced house that accommodates vulnerable adults,

compartmentation in the roof void is necessary to prevent fire spread from (or to) an adjacent house. If the FSO is not considered to apply to the roof void (which is a matter of interpretation of “common parts”), consideration might be given to use of the Housing Act, if necessary, to enforce requirements to address inadequate compartmentation in the roof void.

### **33. Use of appropriate legislation**

- 33.1 Enforcement of measures required to protect vulnerable people should not be unduly restricted by focus on a single legislative regime. Moreover, care should be taken by enforcing authorities not to endeavour unduly to interpret legislation in a manner that was not intended by the regulators who drafted the legislation. Consideration should be given to the legislative regime that can most easily “get the job done”. This may involve co-operation between enforcing authorities.
- 33.2 A protocol has been developed that sets out an interrelationship between local housing authorities and fire and rescue authorities with regard to which enforcing authority takes the lead enforcement role in different properties. The protocol describes the manner in which the two enforcing authorities can work collaboratively to discharge their legislative powers under the Housing Act and the FSO in respect of fire safety. The protocol, to which many local housing authorities and fire and rescue authorities have signed up, allows the application of common fire safety standards and describes which body takes the lead in different circumstances. Under the Protocol, arrangements are put in place for consultation and communication between the local housing authority and the fire and rescue authority, so that unnecessary duplication is avoided and one authority can take the lead in any given case.

# Part D: The person-centred approach

## Key Points

- The person-centred approach, based on a person-centred fire risk assessment, relates to the safety of residents who are at high risk from fire in their own accommodation; as such, this risk assessment and measures identified by it are outside the scope of the Fire Safety Order, but are strongly recommended as good practice.
- This approach is appropriate for high risk residents in sheltered and extra care housing. In supported housing, where the number of residents in each property is usually small, a person-centred fire risk assessment can easily be carried out for every resident.
- A person-centred fire risk assessment should consider the propensity of the resident to contribute to the likelihood of fire or fire development, the capacity of the resident to respond appropriately to fire alarm signals or signs of fire, and the ability of the resident to escape in the event of fire.
- The outcome of the person-centred fire risk assessment should comprise a person-centred approach for the most vulnerable residents, for whom the minimum measures recommended in this guide might not be appropriate. Additional measures may comprise measures to prevent fire, measures to protect residents if fire occurs and enhanced engagement with residents. In the case of the most serious risk, there should be referral of the resident to Adult Social Care.
- The appropriate person to carry out a person-centred fire risk assessment will depend on the circumstances of the housing and support provision. It may be carried out by sheltered housing scheme managers, care providers or any other party who regularly engages with the resident.

## 34. Introduction

- 34.1 As discussed in Part C, the scope of fire safety legislation, in the form of the Regulatory Reform (Fire Safety) Order 2005, includes the common parts of specialized housing (and measures within residents' accommodation that impact on the safety of other residents), but not residents' private accommodation (other than in relation to the power to prohibit or restrict use of such accommodation in the event of serious risk, which is an action rarely taken by fire and rescue authorities).
- 34.2 If a fire occurs within a resident's accommodation, some measures within that accommodation serve the dual purpose of protecting other residents (so forming part of the fire strategy for the building) and protecting the resident(s) of the accommodation in which there is a fire. An obvious example is the fire detection and alarm system provided in each resident's accommodation; this provides early warning to the resident of a fire in their own flat, and, by remote monitoring in sheltered, extra care and supported housing, provides an early call to the fire and rescue service, so reducing the risk to all other residents. These measures, and their ongoing maintenance, fall within the scope of the Fire Safety Order.
- 34.3 However, the FSO was never intended as a means to protect residents from a fire in their own domestic premises. Action cannot, therefore, be taken under the FSO purely to address risk to residents from a fire in their own accommodation, though, in some circumstances, the Housing Act may be used to achieve this (see Part C). This Part of the guide addresses the safety of residents who are at high risk from fire within their accommodation.
- 34.4 In practice, enforcement of legislation is something of an inappropriate "blunt instrument" to protect residents from fire in their own accommodation. The most suitable way of achieving this is to provide advice to residents, who may not have control over all of the measures required for their safety, and to support residents, where necessary, by provision of measures to reduce risk, which may include products or systems specific to the nature of the residents.
- 34.5 The vast majority of fires in specialized housing occur within residents' own accommodation. Consequently, the vast majority of deaths and serious injuries to residents from fires in specialized housing result from fires that start within their own accommodation (and often the room in which the fire starts). It is extremely rare for a resident to die from a fire within the common parts or from a fire in a neighbour's accommodation. Where this has occurred, it has generally been as a result of failure of fire protection measures provided in the building, such as compartmentation or means of escape, which are matters that should be addressed in the fire risk assessment for the building (see Part E).
- 34.6 Fires, and deaths or serious injuries from fires, in specialized housing are not normally the result of inadequate design of the residents' private accommodation. The likelihood of fire and the consequential risk to residents normally arises from the characteristics of the residents themselves.
- 34.7 It follows that, in specialized housing, to ensure that high risk vulnerable residents are adequately protected from a fire in their own accommodation, a person-centred approach should be adopted. This approach takes into account the characteristics of the resident, in particular their propensity to start fire, potential for fire to develop, their capability to respond to a warning of fire and their ability to then escape from



the fire. The foundation for this approach is a person-centred fire risk assessment for each vulnerable resident. The steps to follow in carrying out this risk assessment are set out in Appendix 4.

- 34.8 While this guide is concerned with fire safety in specialized housing for multiple residents, much of the person-centred approach can, and should, be applied to protect highly vulnerable residents of general needs accommodation. The objective in such cases is that the vulnerable person is afforded a 'pocket of sheltered accommodation within the general needs housing', whether this is in a block of flats or a single-family dwelling house. In this case, the responsibility for the person-centred risk assessment would clearly lie with the stakeholders involved in the care of the vulnerable person, but this cannot be enforced under the FSO.

## 35. The change in the social care landscape in England and Wales

- 35.1 The change in the social care landscape in England and Wales was discussed in earlier Parts of this guide. While there has been a steady downward trend in domestic fire deaths in England and Wales, this should not be permitted to mask the increasing risk to residents of specialized housing that arises from a steady growth in the population of vulnerable people, amongst whom an increase in deaths from fire is reasonably foreseeable unless all those who engage with these residents are alert to the potential risks of fire to residents in their own accommodation.
- 35.2 In effect, for any resident who is considered to be at high risk from fire, there is a need for a person-centred fire risk assessment. This assessment should take into account the characteristics of the resident, identify the fire hazards, consider the potential consequences in the event of fire, taking into account existing fire precautions, and, where appropriate, develop a suitable action plan to ensure a reasonable standard of fire safety.

## 36. Person-centred fire risk assessment

- 36.1 Residents of specialized housing range from active older people to those who require 24-hour care. In some cases, residents of specialized housing can be almost indistinguishable from residents of general needs housing. For these residents, a person-centred approach to fire precautions is unnecessary; it will be obvious that no additional fire precautions are necessary.
- 36.2 At the other extreme, the distinction between a care home and a form of specialized housing might largely be an administrative matter of funding, organizational structure and the source of care provision. Although this guide is not applicable to residential care homes, where residents of specialized housing have the same levels of need and potential risk from fire as residents of a residential care home, it will generally be appropriate, in a person-centred approach, to provide measures to ensure a similar level of fire safety.
- 36.3 Fire risk factors, arising from aspects of resident vulnerability, which should be considered in the person-centred approach, are discussed in the paragraphs that follow.

### **Propensity to contribute to the likelihood of fire or fire development**

- 36.4 A person-centred fire risk assessment needs to take account of the potential lifestyle of residents, their decision-making ability and their physical and mental capacity. Potential for careless use of smokers' materials, such as cigarettes, lighters and matches, forgetfulness, or lack of awareness, while cooking, and drug or alcohol abuse can all result in an increase in the likelihood of fire.
- 36.5 If fire does occur, hoarding, oxygen cylinders or the storage of flammable substances not typically found in domestic settings can result in an increase in the extent of fire development and a more intense fire of greater duration.
- 36.6 A combination of several of the factors described in paragraphs 36.4 and 36.5 is indicative of a high likelihood of a serious fire, such that there will be a need for measures to prevent fire and/or an enhanced level of fire protection measures to mitigate the consequences of a fire. Where there is a likelihood that a resident themselves might be directly involved in a fire (e.g. by ignition of clothing), consideration might need to be given to the type of clothing worn by a user, how they light cigarettes, and to personal protection systems (see Part G).

#### **Capacity to respond appropriately to fire alarm signals or signs of fire**

- 36.7 Even though residents might be physically capable of evacuating unaided, those with mental health or decision making difficulties might not respond appropriately to a fire alarm signal or signs of fire, such as the smell of smoke, or even a visible fire. Residents who are deaf or hard of hearing, or using sleep medication, may be unaware of fire alarm signals.
- 36.8 A reduced capacity to respond appropriately can delay these residents' escape or cause them to remain inside the building, putting themselves and others at risk. The assessment of a resident's vulnerability in this regard should take account of their mental state and decision making ability, as well as physical and sensory impairment.

#### **Ability to escape in the event of fire**

- 36.9 An assessment needs to be made of the physical ability of residents to evacuate in case of fire. The most critical stage of escape is evacuation from the resident's own accommodation. Having evacuated from their accommodation, they should then be able to reach a place of relative safety by horizontal movement to the nearest fire exit or fire-resisting door, such as a cross-corridor door or door to a protected stairway. Thereafter, for those on upper floors, it may be necessary to travel vertically down a stairway, or to use an evacuation lift, to reach an exit from the building.
- 36.10 Each of the above stages of the escape needs to be considered separately, taking into account the residents' physical capabilities. There may be a need to limit the extent of undivided corridors, so that residents can reach a place of relative safety within a short distance of the entrance door to their accommodation.
- 36.11 In supported housing with 24-hour staff, there may be a need for personal emergency evacuation plans (PEEPs) for certain residents.

## **37. Documentation of findings**

- 37.1 All residents' accommodation should be protected in accordance with, at least, the minimum recommendations of this guide. However, the person-centred fire risk assessment may identify the need for additional measures, particularly within their own accommodation. A simple template for documenting the significant findings of the person-centred fire risk assessment is shown in Appendix 4.

## **38. Appropriate fire precautions for the individual**

- 38.1 The outcome of the person-centred fire risk assessment should comprise an appropriate action plan for the most vulnerable residents, for whom the minimum measures recommended in this guide might not be appropriate.
- 38.2 Additional measures are discussed in Part G and may comprise any of the following:
1. Fire prevention measures. These could, for example, comprise ignition resistant bedding, safer forms of portable heating, assistance with smoking cessation or vaping, safer ashtrays, safer forms of cooking, etc.
  2. Fire protection measures. These could, for example, comprise additional fire detection (where comprehensive fire detection is not already provided), or fire suppression systems, including, in the case of very high risk residents, personal protection systems.
  3. Enhanced engagement with residents. This ranges from regular advice for the resident to referral to Adult Social Care.
- 38.3 In supported housing (but not sheltered housing), additional measures might comprise evacuation aids and trained staff to expedite a safe and timely evacuation.

## **39. Reviewing the risk assessment**

- 39.1 As in the case of any risk assessment, the person-centred fire risk assessment needs to be reviewed regularly to take into account changes in the capabilities of residents, which may deteriorate over a varying period of time. Changes in risk may necessitate changes to the fire safety measures provided.

## **40. Who should carry out the risk assessment?**

- 40.1 The person-centred fire risk assessment is intended only as a simple means for non-specialists who have suitable understanding of relevant fire risks to determine whether additional fire precautions might be needed. The person who carries out the person-centred fire risk assessment will depend on the circumstances of the housing and support provision. It can be carried out by those who regularly engage with the resident, with input from specialists where necessary. In many cases, particularly where residents are leaseholders, the assessment will need the voluntary co-operation of residents.
- 40.2 In sheltered housing with scheme managers, the scheme managers normally engage with residents on a routine basis, enabling residents who need a person-centred fire risk assessment to be identified. Many vulnerable residents will be in

receipt of care, so enabling the care provider to identify residents in need of a person-centred fire risk assessment. Where a stay put policy is adopted, there will be a need to identify residents who need assistance from the fire and rescue service to evacuate the building.

40.3 In supported housing, the number of residents in each property is usually quite small. This, and the nature of the care service normally provided, enables person-centred fire risk assessments to be carried out as a matter of course, when a resident first moves into the property.

40.4 Where additional fire precautions cannot be provided in the short term, the risk should be reduced as far as reasonably practicable and an adult at risk referral should be made to Adult Social Care.

#### **41. Relationship between the building fire risk assessment and the person-centred fire risk assessment (See also part E)**

41.1 The scope of the fire risk assessment required by the FSO reflects the scope of the FSO, in that it does not extend to the risk to residents from a fire within their own accommodation, though in that risk assessment there is a need to consider, generically, the characteristics of residents for whom the premises are intended. This is discussed further in Part E of this guide.

# Part E: Fire risk assessment for specialized housing premises

## Key Points

- In England and Wales, a fire risk assessment is required by legislation, other than for some shared houses. Its purpose is to evaluate the risk to people from fire and identify measures that should be taken to address the risk. Even if not required by legislation, it would be good practice to carry out a fire risk assessment.
- It enables the Responsible Person to determine the necessary fire safety measures.
- A building fire risk assessment required by the FSO is not a person-centred fire risk assessment, but, in sheltered and extra care housing, consideration needs to be given to, at least, generic resident characteristics; it should be confirmed that, where necessary, there are arrangements for person-centred fire risk assessments by others. In supported housing with a simultaneous evacuation strategy, characteristics of residents need to be taken into account to ensure that, if residents cannot evacuate themselves, sufficient assistance to evacuate is available without the need for intervention by the fire and rescue service.
- It is normally only necessary to consider common parts to satisfy the FSO, but all reasonable endeavours should be made to inspect roof voids in which compartmentation is necessary.
- Compliance with Building Regulations does not necessarily ensure adequate fire precautions for vulnerable residents.
- Where there is concern regarding risk to residents from inadequate fire precautions within their own accommodation, the building fire risk assessment may extend to consideration of the design of residents' accommodation and associated fire precautions (though this is beyond the scope of the FSO).
- Intrusive fire risk assessments (involving destructive exposure) will only be necessary where there is justifiable concern regarding structural fire precautions. They will not normally be necessary for supported housing.
- A fire risk assessment need not always be carried out by specialists, but where external specialists are used, care should be taken to ensure their competence in relation to the type of premises and their occupants.
- Fire risk assessments should be reviewed regularly and when circumstances change.
- Frequency of fire risk assessments and the level of skill required need to be commensurate with the complexity of the premises and the vulnerability of residents.

## 42. Introduction

- 42.1 A fire risk assessment is the foundation for the fire safety measures required in specialized housing. It is also a legal requirement in premises to which the FSO applies (see Part C). Even if the FSO does not apply, it is strongly recommended that, to ensure the safety of vulnerable residents, a fire risk assessment that follows the principles of the assessment required by the FSO is carried out.
- 42.2 A suitable and sufficient fire risk assessment carried out by, or on behalf of, the Responsible Person(s) will help to ensure that the chance of fire occurring in the areas under their control is minimized. It also helps to ensure that, in the event of a fire anywhere in the premises, people can safely evacuate the premises if necessary. The fire risk assessment will also ensure that appropriate managerial arrangements, such as fire procedures and maintenance of fire safety measures, are in place. The ultimate objective of the fire risk assessment is to ensure that fire precautions are suitably proportionate to the risk to vulnerable people from fire.
- 42.3 The fire and rescue authority will normally examine the fire risk assessment at the time of any audit of the building. They do not carry out the fire risk assessment, but may give a certain amount of advice to the Responsible Person. The fire risk assessment should not be confused with an assessment carried out by the local housing authority for the purpose of the Housing Health and Safety Rating System (see Part C).

## 43. Relationship between the building fire risk assessment and the person-centred fire risk assessment

- 43.1 The person-centred fire risk assessment was discussed in Part D of this guide. Generally, the building fire risk assessment, which is required by the FSO and discussed in this section of the guide, will not consider the specific characteristics of each and every vulnerable resident, other than, perhaps, in small supported housing premises with, for example, no more than five or six residents. In sheltered and extra care housing, the number of residents would make this impracticable. In addition, the physical and cognitive abilities of residents can change significantly between building fire risk assessments. For the building fire risk assessment to rely too heavily on the capabilities of each and every resident would, therefore, be contrary to the principle that risk assessment is an ongoing process.
- 43.2 However, the building fire risk assessment does need to take into account, generically, the characteristics of residents for whom the housing is provided, and should give consideration to the range of physical and cognitive abilities of residents that may occur. It should also be confirmed that there are arrangements whereby, where necessary, person-centred fire risk assessments will be carried out.
- 43.3 Regardless of whether, at the moment of time of the fire risk assessment, the most vulnerable categories of residents are actually accommodated in the premises, consideration must be given to the characteristics of residents who are likely to be accommodated in the future. For example, just because, at the time of the fire risk assessment, no resident has serious mobility impairment, or suffers from dementia, it should not be assumed that such characteristics will not occur prior to the next building fire risk assessment (unless the nature of the accommodation is such that

persons with these characteristics will not, or will continue not to, be accommodated).

- 43.4 Even so, in any specialized housing for which a 'stay put' policy is appropriate, it will be necessary for the fire risk assessment to ensure that measures, such as compartmentation, are sufficient to support the 'stay put' policy. If spread of fire from one resident's accommodation could threaten residents of other accommodation who remained within their accommodation in earlier stages of the fire, the evacuation of the latter residents, when the need arises, may be time consuming because of residents' disabilities.
- 43.5 There should be recognition in the fire risk assessment that a good standard of compartmentation actually favours vulnerable residents by enabling them to remain in the safety of their own accommodation when a fire occurs elsewhere in the premises; the corollary is that the fire risk assessment should take into account that serious defects in compartmentation pose a greater threat to disabled residents than to typical residents of a general needs block of flats.
- 43.6 Similarly, based on a generic consideration of resident characteristics, the fire risk assessment will need to take account of the time for residents in a building with a 'stay put' strategy to evacuate a floor of the building, or the entire building, if this should ultimately be required (e.g. by fire-fighters). It will often be necessary for vulnerable persons to reach a place of relative safety within the escape route (e.g. a cross-corridor fire door) within a shorter distance than in the case of typical residents within a general needs block of flats.
- 43.7 The role of the fire and rescue service does not extend to routine evacuation of buildings. However, in buildings designed and maintained to ensure the safety of a 'stay put' strategy, the need for evacuation of residents beyond accommodation within which the fire starts should not arise. As in the case of a single-family dwelling house, evacuation of a severely mobility impaired resident in whose accommodation the fire starts is, effectively, a rescue operation, which is the role of the fire and rescue service. Similarly, if a fire is such that evacuation of disabled residents beyond accommodation in which the fire starts becomes essential, this too involves operations akin to rescue. (It is essential that fire and rescue services ensure that operational crews understand the above principles.)
- 43.8 It follows from the above considerations that, where, in specialized housing, staff are not on duty on a 24-hour basis to provide information to fire-fighters on vulnerable residents who cannot (or cannot reliably) evacuate themselves, the fire risk assessment should ensure that fire-fighters have ready access to this information. The fire risk assessment should not only consider the accessibility of the information, but arrangements for keeping the information up to date and ensuring that fire-fighters are aware of both the availability of the information and the means for accessing it rapidly on attendance.
- 43.9 In a building with a simultaneous evacuation strategy, rather than a 'stay put' strategy, there will need to be closer attention to the characteristics of residents. There is a need to consider evacuation capabilities of residents who are located in accommodation other than that in which a fire occurs. From a consideration of resident characteristics, the fire risk assessment will need to verify that, in these buildings, sufficient assistance is available at all material times to ensure safe evacuation of residents beyond the accommodation in which the fire starts, without

the assistance of the fire and rescue service, unless all such residents can evacuate themselves.

- 43.10 In carrying out a fire risk assessment, it should not simply be assumed that evidence of compliance with the Building Regulations is sufficient to ensure the safety of vulnerable residents from fire. For example, if the flats in a general needs block of flats are handed over to a sheltered housing operator, approval for this transition into sheltered housing would not be required under the Building Regulations. However, consideration of the characteristics (or potential characteristics) of the residents would normally dictate the need for additional precautions. Similarly, no approval under the Building Regulations would be required if, for example, a house shared by young, fit students was then used as supported housing for the same number of people with learning disabilities. However, it would not necessarily be the case that the original fire precautions remained adequate.

#### 44. Who should carry out the fire risk assessment?

- 44.1 There is no legal requirement for the fire risk assessment to be carried out by specialists, such as consultants. Indeed, in the case of, say, a small house or modern block of sheltered housing (e.g. built within the last 20 years), it can be advantageous for the housing provider, management organization or other Responsible Person to use this guide and carry out the fire risk assessment themselves. Their consequent understanding of the fire safety design in the building will enable them to manage fire safety better on an ongoing basis.
- 44.2 In the case of more complex buildings, taller blocks of sheltered flats (e.g. comprising more than a ground and three upper storeys), extra care housing and specialized housing that accommodates residents with severe disabilities, more specialist knowledge may be necessary to carry out a fire risk assessment. This is particularly the case if sheltered housing was designed and constructed before 1992. However, the decision as to whether to use outside specialists to carry out a fire risk assessment rests with the Responsible Person. Where external specialists are used, it is recommended that the guidance in Appendix 3 is followed.
- 44.3 Regardless of who carries it out, the Responsible Person will be liable to prosecution if, as a result of an inadequate fire risk assessment, people are placed at the risk of death or serious injury in case of fire. Equally, anyone carrying out the fire risk assessment for the Responsible Person has the same liability. Nevertheless, external services can only be advisory in nature and there will still be a need for some involvement of the Responsible Person in the fire risk assessment process – even if only to provide certain information and arrange access.
- 44.4 In some premises, there may be more than one duty holder, on whom a requirement is imposed to carry out a fire risk assessment. For example, a landlord may be responsible for the building and the physical fire protection measures, while a care provider may employ the staff who work in the premises and have responsibility for evacuation procedures. In such circumstances, ideally, one organization should carry out a single fire risk assessment that addresses all fire safety measures required under the FSO (i.e. the measures that all duty holders, such as both the landlord and the care provider, are required to take).
- 44.5 If (less preferably) each duty holder carries out their own fire risk assessment, there is a need for close coordination between duty holders to ensure that all relevant



matters are considered, and that the measures within the action plan of each duty holder are sufficient, taking into account matters identified in the fire risk assessment of the other duty holder(s).

#### **45. Competence of professional fire risk assessors**

- 45.1 Commonly, Responsible Persons prefer to use the services of external specialists ('fire risk assessors') to carry out their fire risk assessment. In this case, it is essential that the competence of the fire risk assessor is ensured, not simply in relation to fire safety in general, but to specialized housing in particular. This is because, as discussed above, the legal responsibility for the adequacy of the fire risk assessment cannot be delegated.
- 45.2 Guidance on selecting a suitable professional fire risk assessor is given in Appendix 3 to this guide.

#### **46. What is a fire risk assessment?**

- 46.1 Fire risk is a combination of the likelihood of fire occurring and the consequences to the safety of people if it does occur. A fire risk assessment for specialized housing is, therefore, simply a systematic and structured examination of the likelihood of fire and the likely consequences to vulnerable residents and others who may be affected by a fire.
- 46.2 The purpose of a fire risk assessment for specialized housing is to evaluate the risk to people from fire, particularly vulnerable residents, taking into account existing fire safety measures, and to determine whether additional measures are necessary.
- 46.3 In complex premises, the process of carrying out a fire risk assessment will be assisted by reference to any documented fire strategy, such as that prepared for the purpose of compliance with Regulation 38 of the Building Regulations 2010 in England and Wales (see paragraph 28.3).

#### **47. Common misconceptions about fire risk assessments**

- 47.1 There is often confusion regarding what is meant by the term 'fire risk assessment'. There is also different opinion over the exact scope of a fire risk assessment, particularly one required by the FSO. Responsible Persons are also frequently uncertain as to the extent to which existing fire safety measures – particularly relating to the structure of the building – need to be investigated.
- 47.2 Accordingly, to avoid some common misconceptions, the following points should be noted.
- A fire risk assessment is not carried out at the design stage of a building.
  - A fire risk assessment is not a building snagging exercise, carried out just prior to occupation; it can only be completed after the building is handed over and occupied.
  - A fire risk assessment need not always be carried out by specialists, such as consultants. Use of this guide might enable the Responsible Person to carry out their own fire risk assessment, particularly in small, simple premises.
  - Normally, fire risk assessments need not involve destructive inspection of the building, such as opening up of construction. However, where practicable, it

will be appropriate to lift a sample of accessible false ceiling tiles, to open a sample of service risers and inspect reasonably accessible roof voids (if present). See also paragraph 76.6.

- Although the scope of the FSO fire risk assessment is limited to common parts, it is essential that the fire resistance between residents' accommodation and all common parts is considered. In particular, it will be necessary to examine at least a sample of entrance doors to residents' accommodation to ensure that they are fire-resisting and self-closing. Care should be taken to look out for other obvious ready routes where fire might spread between the flats and the common parts, such as meter or milk delivery cupboards, windows, and so forth. Fire detection and warning within residents' accommodation must also be considered to the extent that it is necessary for the safety of other residents.
- A fire risk assessment is not an exercise to identify failings in workmanship and materials at the time a new building is handed over. It is equally not intended to identify all latent defects in existing buildings. It is undoubtedly the case that a fire may reveal hidden shortcomings that could not reasonably be identified by a fire risk assessment.
- Simply because the FSO requires that, where necessary, certain fire safety measures are required, it does not mean that such measures are necessary in all cases. For example, the FSO requires that, where necessary, all premises to which the Order applies have adequate fire extinguishers and fire alarm systems. In most premises to which this guide applies, fire extinguishers are not normally necessary in the common parts. While automatic fire detection will be required in most of the premises to which this guide applies, it may not be necessary in the common parts of very simple forms of sheltered housing, in which there are no communal facilities, such as lounges.
- It is not sufficient for a fire risk assessment to consider only the measures needed to assist residents to escape from fire. For example, measures to prevent a fire within common parts must be considered, as must the maintenance of any measures that were required under Building Regulations for the safety of, or use by, the fire and rescue service.
- Although the FSO only applies to common parts, residents within flats are 'relevant persons', whose safety from a fire that starts in or spreads to the common parts, must be considered.
- The building fire risk assessment is not the same as a person-centred assessment, the former of which will not normally involve person-centred fire risk assessment.

## **48. Scope of a fire risk assessment**

- 48.1 As the FSO fire risk assessment is concerned with fire safety within common parts, the residents' accommodation is outside the scope of the legally required fire risk assessment. Accordingly, the scope of the fire risk assessment required by the FSO does not include measures to protect residents from a fire in their own accommodation. However, it will normally be necessary to gain limited entry to at least a sample of this accommodation. This is to examine the necessary measures to ensure that, when a fire occurs in a resident's accommodation, there is no undue risk to other residents. Such measures include a fire-resisting, self-closing entrance door to the accommodation, fire detection within the accommodation, as well as, in sheltered and extra care housing, the monitoring of that fire detection.

- 48.2 The relevant fire safety measures and managerial arrangements that must be considered in a fire risk assessment are, in effect, the fire safety duties set out in Articles 10-22 of the FSO.
- 48.3 In summary, the fire risk assessment must consider the 'general fire precautions' defined in the FSO. Of these, the principal precautions for specialized housing are:
- measures to reduce the risk of fire and the risk of the spread of fire;
  - means of escape from fire;
  - measures to ensure that escape routes can be safely and effectively used;
  - measures to ensure automatic detection and early warning of fire;
  - an emergency plan, including procedures for residents in the event of fire;
  - training of staff;
  - measures to mitigate the effects of fire.
- 48.4 'General fire precautions' also include fire extinguishers. While these are not always necessary throughout specialized housing premises, where they are present, consideration needs to be given as to whether they are appropriate or whether they are, in fact, undesirable.
- 48.5 The fire risk assessment must consider the arrangements in place for management of fire safety. Where responsibility for management of fire safety is dispersed across two or more organizations, the fire risk assessor should confirm that there is a suitable record of agreement amongst duty holders as to responsibilities for all relevant aspects of fire safety management; this should take the form of a matrix within the record of fire safety arrangements required by Article 11 of the Fire Safety Order (see paragraph 88.7). It should be confirmed that the agreed arrangements are working properly. The fire risk assessment must also consider the maintenance arrangements for all measures required under the FSO or, in the case of equipment and facilities for the fire and rescue service, under Building Regulations.

## 49. Types of fire risk assessment

- 49.1 The scope of a fire risk assessment needs to be relevant to the nature of the premises and the amount known in respect of the structural protection, particularly premises that comprise purpose-built flats and buildings converted into self-contained flats. There are, in principle, four different types of fire risk assessment that can be carried out, though those involving intrusive opening up of construction are unlikely to be relevant to properties that comprise supported housing. They differ in the extent to which the building is inspected.

### **Type 1 – Common parts only (non-destructive)**

- 49.2 A Type 1 fire risk assessment is the basic fire risk assessment required for the purpose of satisfying the FSO.
- 49.3 The inspection of the building is non-destructive. But, as well as considering the arrangements for means of escape and so forth, the fire risk assessment includes examination of at least a sample of entrance doors to residents' accommodation. It also considers, so far as reasonably practicable, the separating construction

between the accommodation and the common parts without any opening up of construction. However, in this Type of fire risk assessment, entry to any resident's accommodation beyond the area of their entrance door is not involved, other than to confirm the adequacy of fire detection, and of the monitoring of the detection, to protect other residents.

- 49.4 Where there are reasonably accessible roof voids (e.g. in buildings with pitched roofs), all reasonable steps should be taken to inspect the roof voids, unless it is considered that there is no need for compartmentation within the voids. If access to the voids is not possible, and compartmentation in the voids is considered to be important, this should be recorded in the fire risk assessment, so that, as a separate exercise, roof voids can be inspected. If the only access to roof voids is within residents' accommodation, so resulting in difficulties of access for routine inspection, it might be appropriate for the fire risk assessment to recommend that hatches be provided in common parts to facilitate access.
- 49.5 Where there are demountable false ceilings in the common parts, it may be appropriate to lift a sample of readily accessible false ceiling tiles. In addition, in blocks of flats, it will normally be appropriate to open a sample of service risers, provided access is practicable at the time of inspection.
- 49.6 Unless there is reason to expect serious deficiencies in structural fire protection – such as inadequate compartmentation or poor fire stopping – a Type 1 inspection will normally be sufficient for most specialized housing. Where doubt exists in relation to these matters, the action plan of a Type 1 fire risk assessment (see Section 51) may recommend that one of the other types of fire risk assessment be carried out or that further investigation be carried out by specialists. (However, this should not be a generic recommendation of all Type 1 fire risk assessments; the recommendation should be based on identification of issues that justify reason for doubt.)

### **Type 2 – Common parts only (destructive)**

- 49.7 The scope and objectives of a Type 2 fire risk assessment are generally similar to those of a Type 1 fire risk assessment, except that there is a degree of destructive inspection, carried out on a sampling basis. This will usually necessitate the presence of a contractor for the purpose of opening up construction and making good after the inspection. This type of fire risk assessment is unlikely to be appropriate in most supported housing.
- 49.8 In order to check the integrity of separating construction, the areas in which destructive inspection is carried out might sometimes include a sample of residents' accommodation. However, because of the nature of the work, this can often only be carried out in vacant accommodation.
- 49.9 A Type 2 fire risk assessment is usually a one-off exercise, which is carried out only if there is good reason to suspect serious structural deficiencies that could lead to spread of fire beyond the accommodation in which a fire occurs. The age of the premises alone is not generally sufficient to warrant a Type 2 inspection. The need for a Type 2 fire risk assessment may sometimes be identified in a Type 1 fire risk assessment, but should not simply be recommended as a matter of course.

### **Type 3 – Common parts and residents' accommodation (non-destructive)**

- 49.10 A Type 3 fire risk assessment includes the work involved in a Type 1 fire risk assessment, but goes beyond the scope of the FSO (though not the scope of the Housing Act). This risk assessment considers the arrangements for means of escape and fire detection within at least a sample of the residents' accommodation. Within the residents' accommodation, the inspection is non-destructive, but the fire resistance of doors to rooms is considered.
- 49.11 Measures to prevent fire are not considered unless the measures are outside the control of the resident (e.g. in the case of maintenance of the electrical and heating installations).
- 49.12 A Type 3 fire risk assessment may sometimes be appropriate for accommodation rented by residents if there is reason to suspect serious risk to residents in the event of a fire in their own accommodation. (This might be, for example, because of the age of the premises, reason for suspicion of widespread, unauthorised material alterations or the characteristics of residents). This type of fire risk assessment will not be possible in the case of long leasehold flats in sheltered and extra care housing, as there is normally no right of access.

#### **Type 4 – Common parts and residents' accommodation (destructive)**

- 49.13 A Type 4 fire risk assessment has the same scope of work as a Type 3 fire risk assessment, except that there is a degree of destructive inspection, in both the common parts and the residents' accommodation, carried out on a sampling basis. This will usually necessitate the presence of a contractor for the purpose of opening up construction and making good after the inspection. However, the nature of the work is such that, often, destructive inspection within residents' accommodation can only be carried out in those that are vacant. This type of fire risk assessment is unlikely to be appropriate in most supported housing.
- 49.14 This is the most comprehensive fire risk assessment, but will only be appropriate in limited circumstances – such as when a new landlord takes over a block of sheltered flats in which the history of works carried out is unknown and there is reason to suspect serious risk to residents from both a fire in their own flats and a fire in neighbours' flats.

Note: Before destructive inspection is to be carried out, the risk of disturbing asbestos should be considered (e.g. by examination of the asbestos register).

## **50. The risk assessment process**

- 50.1 There is no single right or wrong way of carrying out a fire risk assessment. The important issue is that the scope is appropriate and that the relevant fire safety measures are properly examined. Traditionally, guidance has referred to the 'five steps' to risk assessment. This is the approach outlined in the HM Government guide 'Fire safety risk assessment: sleeping accommodation' (see Appendix 2).
- 50.2 More detailed guidance on the steps involved in carrying out a fire risk assessment are set out in the British Standards Institution publicly available specification, PAS 79 ('Fire risk assessment: guidance and a recommended methodology'). PAS 79 sets out nine separate steps in the fire risk assessment process (see Appendix 2). However, it is stressed that many other approaches are equally acceptable.

- 50.3 If the Responsible Person employs five or more people in the organization (regardless of where they are employed to work), the significant findings of the fire risk assessment must be documented. (Under certain circumstances, this can be required where less than five persons are employed.)
- 50.4 The minimum information that must be recorded in the above circumstances comprises:
- the measures that have been taken, or are in place, to satisfy the FSO
  - the measures that will be taken to achieve compliance (the action plan)
  - any group of persons identified by the fire risk assessment as especially at risk; in specialized housing, this is likely to comprise all residents.
- 50.5 There is no legal requirement to use any particular style or format for recording the findings of a fire risk assessment. (DCLG guidance and PAS 79 contain templates that can be used, but these are simply examples, and other formats can be equally acceptable.)

## **51. The Action Plan**

- 51.1 The outcome of the fire risk assessment should be a suitable action plan. The action plan should set out a list of any (normally prioritized) physical and managerial measures that are necessary to ensure that fire risk is maintained at, or reduced to, an acceptable level. Prioritization should be commensurate with the risk, but it is important to acknowledge that major capital work cannot be completed immediately. Recommended timescales must be realistic.
- 51.2 In formulating an action plan, the following questions should be considered.
- Will the plan, once implemented, achieve adequate safety for vulnerable people?
  - Will any hazards to the safety of vulnerable people be created (e.g. fitting of self-closing devices that prevent frail residents from opening doors – see paragraphs 77.80-77.87)?
  - Are the actions reasonably practicable, taking cost, effort and risk to vulnerable people into account?
  - What will the view of residents be if the actions are implemented?
  - Will it be practicable to maintain the precautions in place during normal use of the building?
  - Do the proposed actions have any implications for accessibility and safety of disabled people.

## **52. Review of fire risk assessments**

- 52.1 The fire risk assessment is a living document, which cannot remain valid for an unlimited length of time. It needs to be reviewed periodically.
- 52.2 For compliance with the FSO, fire risk assessments need to be reviewed:
- regularly (see Paragraphs 52.4-52.6)

- when material alterations take place
  - when there is a significant change in the matters that were taken into account when the risk assessment was carried out – this includes a widespread change in the type of residents.
  - when there is a reason to suspect that the original fire risk assessment is no longer valid (e.g. after a fire that occurred within, or spread to, the common parts)
  - after completion of significant works carried out to address shortcomings identified by the fire risk assessment.
- 52.3 Review of a fire risk assessment is not necessarily the same as a repeat of the entire fire risk assessment process. If a thorough fire risk assessment has been carried out, a shorter review exercise might be carried out regularly, with a more fundamental new fire risk assessment completed at less regular intervals.
- 52.4 The frequency with which fire risk assessments should be reviewed in the absence of any known changes is not defined in the FSO. The date by which a fire risk assessment should be reviewed should be determined as part of the process of carrying out a fire risk assessment.
- 52.5 The frequency of review should take into account the rate with which changes, including those arising from the need for maintenance work, are likely to occur, and the risk to people that might arise from changes. This means that a less frequent review might be acceptable if there is close management control of common parts and work by contractors (e.g. within roof voids within which there is a need for compartmentation), including frequent routine inspections. More frequent reviews may be appropriate where risk to residents is high as a result of disabilities.
- 52.6 As a general guide, for a low risk, modern, low-rise sheltered housing block (e.g. a block of no more than three storeys above ground, built within the last 20 years), a review every year might be sufficient, with a new fire risk assessment completed every three years. For specialized housing with higher risk – arising from residents' disabilities, the age of the building, and so forth – and premises of over four storeys in height, an annual review, with a new fire risk assessment every two years, might be more appropriate. For the highest risk premises, an annual full fire risk assessment might be appropriate. However, these suggested frequencies should not be applied prescriptively, as they are not hard and fast "rules".
- 52.7 Even if outside specialists carry out the fire risk assessments, it is possible that reviews could be carried out by those with less specialist knowledge, such as in-house staff who have received suitable training, as the review concentrates primarily on progress with the previous action plan and identification of changes. The suitability of in-house staff to carry out reviews of fire risk assessments (or even full fire risk assessments) will depend on the education, training and experience of the staff in fire safety, the complexity of the premises and the risk to vulnerable residents in the event of fire.

When commissioning a fire risk assessment from external specialists, landlords and other Responsible Persons should:

- specify what type of fire risk assessment is required – remember Type 1 will often suffice and other types involve extra time, cost and disruption that may not be justified unless there is good reason to suspect serious deficiencies in

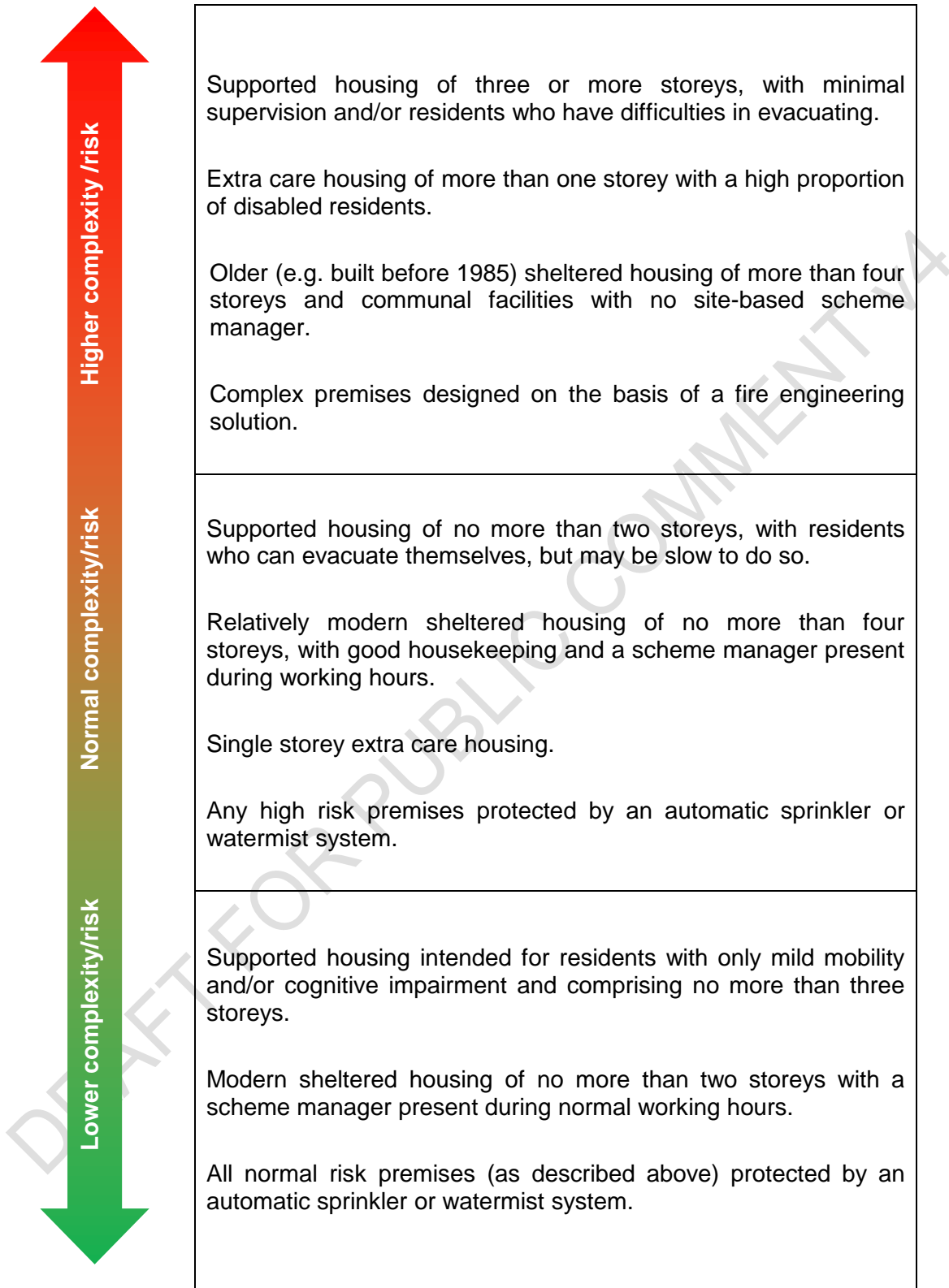
fire safety;

- ensure you provide the fire risk assessor with relevant information on the building, the characteristics of occupants and arrangements for management of fire safety;
- recognize that all fire risk assessments will involve a degree of access to a sample of flats – you will need to assist in arranging access to a sample of residents' accommodation;
- where you specify a risk assessment requiring destructive surveys, expect to employ a contractor to open up the construction – rarely do third party fire risk assessors have in-house resources to carry this out;
- recognize that no risk assessment can be exhaustive – expect recommendations for further investigation if there is difficulty in establishing, for example, the suitability of floors and walls to resist fire-spread – however, challenge generic recommendations which are not supported by justified concern that serious deficiencies are present, taking into account all relevant sections of this guidance;
- consider specifying the style and format you require for the fire risk assessment;
- reports – consider adopting recognized templates, such as those in PAS 79;
- insist that action plans include a clear priority and timescale for all recommendations and differentiate between those recommendations essential to satisfy legislation and those that are a matter of good practice;
- remember that using an external specialist does not absolve you of your responsibilities under the FSO;
- ensure your fire risk assessor is competent;
- establish that your fire risk assessor has suitable experience and knowledge of carrying out fire risk assessments in buildings that accommodate vulnerable people and premises with similar characteristics to your housing.

### **53. Determining complexity and risk**

- 53.1 In this section of the guide, it has been recommended that, as complexity and risk increases, the frequency of fire risk assessments, or reviews of fire risk assessments, as well as the competence of those carrying out assessments and reviews, needs to increase commensurately. Relevant factors to consider are set out below.





# Part F: Preventing fires in the building

## Key Points:

- Prevention of fire is fundamental to the safety of residents in specialized housing and should be a key consideration in fire risk assessments.
- The most likely place for fire to start is within residents' own accommodation. However, fires within the common parts cannot be discounted and can provide a threat to all residents.
- Although cooking, smoking, electrical faults and arson are the most common causes of fire in residential housing, other causes of fire, including use of candles, need to be considered.
- There should be appropriate policies and management procedures in place to reduce risk, such as 'safe smoking' and 'arson' policies.
- Poor housekeeping can be a common fire hazard in residents' accommodation and is a significant hazard within the common areas of supported housing.
- Hoarding is a recognized fire hazard, which may need to be addressed by liaison with external agencies and relatives.
- There should be a clear policy on whether common parts should remain completely sterile ('zero tolerance') or may be subject to 'managed use'.
- The use, storage and charging of mobility scooters presents a particular challenge in certain types of housing. Clear policies and procedures should be introduced to control this fire hazard.
- Fixed electrical installations should be subject to periodic inspection and test. Where portable appliances are provided by housing providers in common areas and within residents' accommodation, they should be subject to inspection and test regimes.
- Common heating and ventilation systems should be subject to regular maintenance.
- The use of portable heaters can result in risk to residents, and suitable measures should be introduced to control this fire hazard.
- There should be suitable arrangements to reduce the risk from the use and storage of medical gases, including oxygen.
- Building works and the control of contractors should be closely monitored and be subject to management control.

## 54. Introduction

- 54.1 Preventing fires from occurring is one of the cornerstones of reducing risk in all properties. Fire prevention is particularly important in properties to which this guide applies and should be a key consideration in any fire risk assessment.
- 54.2 The identification, elimination or control of fire hazards is fundamental to the safety of life in all residential premises, but its significance is particularly great in premises where the residents are considered to be vulnerable because of physical, mental or medical circumstances, and where their ability to escape unaided in the event of a fire might well be impaired.
- 54.3 In certain situations, the particular vulnerability and behaviour of residents may well increase the risk of fires starting. Unsafe situations can arise as a result of residents who smoke, have alcohol or drug dependencies, have mental health or physical health issues, mobility problems, engage in poor cooking practices and are prone to poor housekeeping, including hoarding.
- 54.4 A person-centred approach that recognizes the particular needs of vulnerable residents is likely to be necessary in cases where mobility and other issues make escape by an individual resident problematic. This may result in the need to provide additional fire safety measures and/or engage the assistance of external agencies to inform prevention strategies and provide additional support to reduce risk for vulnerable residents.
- 54.5 The prevention of fire should, therefore, form a key part of the overall risk assessment and fire safety management plan for the premises. The extent to which housing providers and management have responsibility for, and can subsequently have a positive effect on, the prevention of fires will vary, dependent on the operation, nature, use and occupation of the premises.
- 54.6 It must be recognized that premises providing supported housing differ significantly from sheltered housing and extra care housing in terms of size, layout and construction. These two distinct groups of premises can present different risks.
- 54.7 In sheltered housing and extra care housing, the ability for housing providers, management or landlords to influence the safety of people living in their own self-contained accommodation may be limited. In these situations, the guidance provided is primarily aimed at preventing fires in the common areas, or in areas which are under management or landlord control.
- 54.8 However, the most likely place for a fire to start within housing of this type is within the residents' own self-contained accommodation. It is recognized that the scope for housing providers or landlords to take measures to prevent fires in residents' accommodation will, in some cases, be dependent on the co-operation of the individual residents who may own, lease or rent the accommodation. Nevertheless, there are opportunities, for example, in some rented accommodation where landlords may have responsibilities for, and access to, the accommodation to undertake, for example, regular gas safety checks and periodic inspections of electrical installations, which will provide them with an opportunity to impact on the potential to reduce certain fire hazards within residents' own accommodation. In addition, the person-centred approach, discussed in more detail in Part D of this

guide, identifies opportunities for care staff, health visitors and others to recognize hazardous situations and to take appropriate action.

- 54.9 In extreme situations, the identified risk within a resident's own accommodation may be considered to be so high that it could have the potential to place other residents in the premises at risk. This may be as a result of the increased risk of fire spreading beyond the accommodation of origin to affect the common means of escape in the event of a fire (e.g. as a result of hoarding). In these situations, it might be possible to take legislative action against individuals to reduce the risk if all other opportunities to reduce the risk have failed.
- 54.10 It is strongly recommended that all housing providers, landlords, and those managing specialized housing, take every suitable opportunity to engage with, and educate, residents on basic fire prevention for the residents' own safety. This may include the identification of particularly vulnerable residents and engaging the assistance of carers and external agencies to provide advice and support in an attempt to reduce the risk. Again, this is discussed further in the person-centred approach in Part D of this guide.
- 54.11 In supported housing, residents will generally have a greater degree of interaction and, in most cases, they will share facilities in a way that is similar to living in a single-family domestic property. In these environments, support workers will, potentially, have a greater degree of control and responsibility for the residents and their accommodation. In these circumstances, it is recognized that there is potentially more flexibility and scope to introduce management controls for the prevention of fires throughout the premises including, where appropriate, within residents' own accommodation.
- 54.12 Common fire hazards and possible measures to control or eliminate fire hazards, in all properties, are set out below. However, a guide such as this cannot be exhaustive. Landlords and those managing fire safety in these premises must be vigilant for other fire hazards that might be present or new hazards that might materialize in the future.

## 55. Cooking

- 55.1 Cooking is the most common cause of fire in residential dwellings. Around 46% of fires in dwellings are started by cooking appliances<sup>9</sup>. In sheltered and extra care housing, the proportion is much greater (79%), though, as a result of remote monitoring of fire alarm signals, such fires are more likely to come to the attention of the fire and rescue service than similar fires in other domestic premises. Thus, only 7% of fatalities in sheltered housing result from fires started on cooking appliances.
- 55.2 In most self-contained accommodation in sheltered and extra care housing, the role of housing providers will be limited. Even if white goods, such as cookers, are provided, or come as part of the fixtures and fittings, the responsibility for the ongoing maintenance and cleaning generally rests with residents.
- 55.3 Housing providers and support agencies are advised to provide advice and guidance to residents on the measures available to reduce the risks of fire from

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<sup>9</sup> Source: UK Fire Statistics

cooking. Fire safety literature on fires in the home is readily available from [www.gov.uk/government/collections/fire-safety-guidance](http://www.gov.uk/government/collections/fire-safety-guidance).

- 55.4 In situations where housing providers, support workers or other agencies become aware that residents are considered to be particularly vulnerable as a result of cooking (e.g. residents with dementia), intervention strategies, involving external agencies and relatives might be appropriate to reduce the risk for vulnerable individuals as part of a person-centred approach.
- 55.5 It will be necessary to consider fire hazards associated with cooking where communal facilities are provided. These can include kitchens, restaurants and cafés where meals and snacks are prepared and provided for residents, guests and visitors. These may be operated by external companies and, in these situations, the responsibility for their operation will be the responsibility of the company. In these circumstances, separate fire risk assessments by the third parties may be required.
- 55.6 In other premises, communal kitchens and cooking facilities in community rooms may be provided for the use of residents or, in some cases, the use of volunteer groups, friends or relatives. Facilities may include domestic cookers, microwave ovens, toasters and provision for tea/coffee making. In these situations, these areas need to be included within the overall building risk assessments. There should be policies and procedures for the safe use of the equipment provided and cooking in general.
- 55.7 In supported housing, the use of kitchens by vulnerable residents may be an integral part of any care package, or just part of accepted normal day-to-day living. In some instances, staff may be available on site to provide assistance to, or supervision of, the residents. The use of shared kitchens, and the type of equipment provided, must be considered in fire risk assessments. Consideration may be given to products that facilitate automatic isolation of cookers when circumstances that will result in a fire occur.
- 55.8 A key component, in all situations, to reducing risk is regular maintenance and cleaning of cooking appliances and any associated extract systems, especially if deep fat frying is undertaken. In addition, regular inspections should be carried out to monitor and control the use of these areas.
- 55.9 Consideration may, in some cases, need to be given to providing isolation switches to control the use of cooking equipment by vulnerable residents during periods where supervision is not available. Other facilities, including gas cut-off switches, fixed suppression systems and the provision of portable fire-fighting equipment, including fire blankets, may be considered appropriate, dependent on the risk.

## **56. Smoking**

- 56.1 Smoking in workplaces or within the common parts of specialized housing is prohibited by law.
- 56.2 However, there still exists the very real need to remain vigilant, not only because of people inadvertently smoking in areas where the law prohibits it, but also because of illicit and surreptitious smoking. Indeed, people's efforts to conceal such actions can often result in increased risk.

- 56.3 In these situations, employees and residents need to be reminded that the law on smoking applies to both the workplace and the common parts, such as stairways, corridors and ancillary accommodation, including community lounges, kitchens and other common parts. 'No smoking' signage is a statutory obligation, but taking other simple, basic steps can help to reduce the risk.
- 56.4 In all premises, there should be a documented, safe smoking policy for the management of smoking and the safe disposal of smokers' materials. This would, in some premises, include the provision of designated smoking areas, the provision of suitable receptacles for the safe disposal of smokers' materials and the introduction of management controls to enforce the 'no smoking' policy. There is experience of fires in designated smoking areas as a result of build-up of discarded cigarette ends, etc.
- 56.5 In premises providing supported housing, for example, management controls may extend to the provision of individual risk assessments for vulnerable residents who smoke, which, in turn, may result in additional controls and the introduction of higher levels of supervision to restrict access to smokers' materials and lighters. In such premises, the level of assessment and management control would potentially be similar to those adopted in care homes. Assessments may, therefore, need to consider the mental and physical capacity of residents, as well as medical risks, such as the use of oxygen and emollient creams. Other factors such as the ignition resistance of furnishings, bedding and sleep wear will also need to be considered (see also Part G).
- 56.6 Safe smoking policies should also, where necessary, take account of, and include, arrangements for the use of 'E' cigarettes and the charging facilities. This is particularly important following a number of recent incidents of fires caused by defective and non-regulated charging devices.
- 56.7 In self-contained units of accommodation, such as flats in sheltered or extra care housing, for example, where residents may choose to smoke in their own accommodation, it may not be possible to introduce any control measures much beyond those in the common areas. However, every effort should be made to reduce the risk to residents who smoke, as 79% of all fatalities in sheltered housing result from fires ignited by smokers' materials, cigarette lighters and matches. Residents should be provided with advice on measures to prevent fires as a result of smoking. Residents' handbooks, fire safety leaflets and the interaction of other external agencies, such as care and health workers, provide opportunities to inform and educate on this basis.
- 56.8 In certain situations, where risks associated with smoking are identified, and it is recognized that residents are particularly vulnerable, it might be appropriate to engage the assistance of relatives, carers or outside agencies to identify potential solutions that could be considered to reduce the risk to the individual as part of a person-centred approach. This might include additional automatic smoke detection, fire-resisting bedding and, potentially, specialized suppression systems as part of a person-centred approach (see Part D).

**When assessing the risk from smoking, use the opportunity to:**

- Review the effectiveness of the smoking policy.
- Where appropriate, consider risks to individual residents.

- Look out for evidence of smoking in areas other than designated smoking areas.
- Check that 'no smoking' signs are still in place.
- Make sure receptacles provided for disposal of smokers' materials are being emptied on a regular basis.

## 57. Arson

- 57.1 Arson is the cause of around 12% of fires<sup>10</sup>, though only 4% of fires (but 10% of fire fatalities) in sheltered housing. Anti-social behaviour can be a factor in accounting for some of these fires and basic security can often be the most effective strategy in countering these types of fire. Security and arson control policies are therefore key elements of any fire prevention strategy for specialized housing.
- 57.2 The nature of deliberate fires experienced in premises to which this guide applies varies, but can range from people setting fire to rubbish and storage, either externally or within the common parts, and, in some cases, setting fires in their own accommodation. The profile of those carrying out such acts clearly varies. In some settings, such as supported housing, where it is known that individuals have a history of arson, additional measures may be necessary to restrict access to materials that can be used to start fires.
- 57.4 It must be recognized that some fires are started by those with the deliberate intent of causing serious harm to people. It is unlikely to be practical to implement physical measures that will completely counter this risk. Vigilance by residents, along with staff and contractors, will continue to be key to any programme of arson prevention.

### **Measures that can be used to address the potential for arson include:**

- Good physical security, with suitable locks on doors and windows in common parts.
- Where appropriate, access control linked to entry phones in residents' accommodation.
- Effective lighting, both externally and internally, in the common parts.
- Where appropriate, CCTV, particularly on entrances and external façades.
- Maintaining common areas free from combustible material, other than items specifically permitted.
- Supporting initiatives to address anti-social behaviour.

- 57.5 The possible conflict between security and fire safety must be taken into account and any security measures taken to restrict access must not prevent people escaping easily in a fire.

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<sup>10</sup> Source: UK Fire Statistics

- 57.6 Residents of flats should be encouraged to make their homes secure. Advice on crime prevention in the home is available from [www.direct.gov.uk/en/CrimeJusticeAndTheLaw/CrimePrevention](http://www.direct.gov.uk/en/CrimeJusticeAndTheLaw/CrimePrevention).
- 57.7 Some residents may introduce their own security measures, including fitting additional locks and security grilles to front doors and installing intruder alarm systems. It is recognized, of course, that this is less likely in specialized housing, where building security measures are more likely to be already present than in general needs housing. However, again, care is needed to ensure that any measures taken do not conflict with the need to escape in the event of fire. Where possible, leases should be used to constrain the fitting of excessive security measures, such as grilles and gates, that might delay escape by the residents, impinge on the safety of others or delay access for the fire and rescue service to effect rescue and fight fires.
- 57.8 By far the easiest means of preventing arson is to remove potential sources of fuel, and to secure areas to prevent access. Risk assessments should consider arrangements, for example, for the storage of refuse bins and recycling materials. Ideally, bins and recycling should be stored in a secured area, clear of the building, or within purpose-built bin rooms, which are adequately fire separated from the remainder of the premises.
- 57.9 Waste skips, builders' materials and combustible materials associated with building works should be sited clear of the building, ideally a minimum of at least 6m away from any building.
- 57.10 In addition, garden sheds and similar combustible units should again be kept clear of the building and be kept locked to prevent unauthorised access.

**When inspecting premises:**

- Check that basic security is being maintained, e.g. that entrance/exit doors are closing effectively and are secured to prevent unauthorised access, and security lights are working.
- Be vigilant for signs of anti-social behaviour involving fire setting, both inside the accommodation and outside in the vicinity.
- Check that doors to any residents' store cupboards and external sheds are kept locked.
- Make sure that both external and internal plant rooms and electrical cupboards are locked shut and bin rooms are kept secure.
- Monitor housekeeping in common areas and ensure that the organization's policy on the use of common parts is being followed.

**58. Electrical hazards**

- 58.1 Fires of electrical origin account for some 21% of all fires in dwellings, the second largest cause<sup>11</sup>. In sheltered housing, only 7% of fires are caused by electrical equipment. (However, this lower proportion of fires might, to some extent, be explained by the high number of very small fires involving cooking appliances that

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<sup>11</sup> Source: UK Fire Statistics



are reported to fire and rescue services because of remote monitoring of smoke alarms.)

- 58.2 Ignition of combustible materials through overheating or arcing can result when faults develop in wiring or in appliances. Such faults are often evident before a fire occurs and the risk can be avoided by being vigilant and taking simple precautions. Regular inspection and testing of wiring and electrical appliances, and arranging for any faults to receive attention, can considerably reduce the likelihood of a fire developing.
- 58.3 The fixed wiring in workplaces, supported housing, and in the common parts of sheltered and extra care housing, should be subject to periodic inspection and test in accordance with current guidance. This should be undertaken at periods not exceeding five years.
- 58.4 Housing providers and landlords responsible for fixed electrical wiring in residents' accommodation should also arrange for the electrical installations to be inspected and tested regularly.
- 58.5 In leasehold properties, where landlords have limited control, residents should be encouraged to take preventive action by arranging for their own electrical installation to be inspected and tested periodically.
- 58.6 A number of factors should be taken into consideration when deciding upon the frequency of fixed wiring inspections, including:
- The age of the property and the electrical installation therein.
  - The duration of the tenancy.
  - The nature of the tenant expected to take possession of the flat.
- 58.7 An interval of 10 years between such inspections would be appropriate for leasehold accommodation, but an interval of five years should be applied to rented accommodation.
- 58.8 Where tenant turnover is high, the housing provider/landlord would be well advised to arrange for at least a thorough visual inspection of the accessible parts of the electrical installations on change of tenancy, to look, for example, for signs of damage to installed equipment and accessories, or other defects or deterioration which may pose a danger to the next tenants. Where duration of tenancy is longer, a new inspection and test will normally be appropriate at change of tenancy.
- 58.9 The interval between inspection and testing can be extended where no damage that would make the flat unsafe over a number of inspections has been observed. Conversely, the interval should be reduced where the survey finds evidence of significant damage or deterioration.
- 58.10 Periodic inspection and testing of electrical installations should be undertaken by suitably competent persons e.g. an NICEIC approved electrical contractor or a member of the Electrical Contractors Association. The inspection and test, and any necessary remedial work, should be undertaken in accordance with the current IET Wiring Regulations (BS 7671) and the recommendations in IET Guidance Note 3. Guidance on periodic inspection reporting is also available from the Electrical

Safety First and can be downloaded from their website ([www.electricalsafetyfirst.org.uk](http://www.electricalsafetyfirst.org.uk)).

- 58.11 In the case of any portable electrical appliances that might be present in premises and/or the common parts, including where these are provided in individual residents' accommodation by housing providers/landlords, and are under their control, these should also be subject to inspection and test on a regular basis. Guidance on the nature and frequency of this can be found in the IET Code of Practice for In-Service Inspection and Testing of Electrical Equipment.
- 58.12 Others, such as Tenants' and Residents' Associations (TRAs) who occupy parts of sheltered and extra care housing that are outside the control of landlords, and cleaners and maintenance contractors who bring portable electrical appliances into the building, should be encouraged to ensure that they have suitable inspection and testing regimes in place.
- 58.13 The use of extension cables and adaptors should be closely monitored as their inappropriate or excessive use can present a risk within residents' own accommodation and in common areas.
- 58.14 In common areas, extension leads are often used inappropriately to charge mobility scooters, power Christmas lights and other decorations, in conjunction with adaptors, and power other electrical items including, on occasions, portable heaters. The use of extension leads and adaptors provided by residents should not be permitted in common escape routes and common areas, such as community rooms.
- 58.15 The use of extension cables to provide additional electrical outlets is common in most domestic premises and measures to control their use in residents' own accommodation can be problematic. Housing providers and landlords should, wherever practical, ensure premises have sufficient electrical outlets to reduce the need to use extension cables to a minimum.
- 58.16 However, the use of extension cables is almost inevitable and, in these circumstances, residents should be given advice and information on the risks associated with their use in the home. This would include safety information on trip hazards posed by trailing leads, the overloading of outlets, placing electrical equipment, such as heaters, close to bedding or other combustible materials and/or using electrical outlets in dangerous situations in kitchens or bathrooms. Where housing providers, care workers or others come across instances of misuse, or bad practice, this should be brought to the attention of individuals and, where necessary, action taken to reduce the risk, as part of a person-centred approach.
- 58.17 Ideally, where necessary, additional electrical outlets should be provided to avoid the use of extension cables and adaptors. If the use of extension cables is considered appropriate by housing providers and landlords in common areas under their control, these should be to industry-approved standards, be subject to regular inspection to ensure safety in operation, for example as part of a portable appliance testing (PAT) regime, and be securely fixed to prevent trip hazards, and to prevent electrical equipment from being moved to inappropriate locations.
- 58.18 Where electric profiling beds (EPBs) are provided, measures should be taken to reduce the likelihood and consequence of damage to the cables in line with manufacturers' instructions. This should include routine examination of cables.

Staff should be educated in the hazards and instructed to report any issues to the supplier. The underside of the bed must remain clear of all storage at all times. The bed should be subjected to regular testing to medical equipment standards.

- 58.19 A residual current device (RCD) should be used to provide additional protection of cables that supply EPBs. The best place for an RCD is built into the main switchboard or the socket outlet, as this means that the supply cables are permanently protected. If this is not possible, a plug incorporating an RCD or a plug-in RCD adaptor can also provide additional safety.

**To reduce the likelihood of an electrical fire:**

- Be vigilant during inspections for any obvious damage to electrical fittings and equipment.
- Ensure fixed installations and portable appliances are subject to regular inspection and testing.
- Make sure electrical distribution boards are located in secure cupboards or rooms, within which there is no storage or rubbish in close proximity.
- Control the use of trailing leads, extension cables and adaptors in the common parts and, where appropriate and necessary, in residents' accommodation for vulnerable residents.
- Look out for residents using sockets in the common parts to charge their own appliances or power equipment within their accommodation, and to power decorative lights in the common parts, such as Christmas decorations and artificial trees.
- Consider the installation of key-operated socket outlets within common parts, including lounges and kitchens, to restrict access to cleaners and other legitimate users.

## 59. Heating and Ventilation

- 59.1 Heating, hot water and occasionally ventilation systems provided in the majority of premises used for supported housing would be similar to those found in domestic housing.
- 59.2 Heating, hot water and ventilation systems can also be found serving the common parts of sheltered and extra care schemes, particularly in older premises, and are more often separate from the systems in the individual flats. However, this is not always the case and, in some schemes, the heating and hot water systems will form part of the lease/rental package.
- 59.3 The hazards arising from communal heating and ventilation systems include both a potential for ignition and a route for fire spread through common ducts and risers in sheltered or extra care premises.
- 59.4 Planned preventive maintenance is the key to minimizing the likelihood that, for example, a boiler will catch fire, or that a fire within supply and extract fans, or in ductwork, will spread smoke and flames through a building.
- 59.5 Where common heating or hot water systems exist, landlords/housing providers must ensure systems are subject to regular maintenance and testing in accordance

with current best practice guidance. Where gas-fired systems are in use, these will be subject to annual inspections and test in accordance with gas safety regulations.

- 59.6 Where separate systems are provided in self-contained accommodation, such as flats, and the maintenance is the responsibility of the residents, they should also be encouraged to have their systems serviced regularly. While landlords are obliged to arrange annual gas safety checks for rented properties, residents of leasehold flats should also be encouraged to arrange for their appliances to be checked every year.
- 59.7 Where portable heaters are used in common areas, e.g. in lounges and community rooms, these should be suitable for their intended use and not subject to being easily knocked over or damaged. Ideally, portable heaters in use in common areas, lounges and community rooms should be fixed to the walls to prevent them from being moved or knocked over.
- 59.8 Portable heaters provided by residents will also regularly be found in residents' accommodation and there will, in most cases, be little possible control over the type of heaters provided or their maintenance and use. However, as with other hazards, if the use of portable heaters presents a significant risk to vulnerable residents, measures to reduce the risk, as part of the person-centred approach, should be introduced. These could include changing the type of heater in use to one that presents less risk, improving the heating system to avoid the use of portable heaters and giving residents advice and information on the safe use of heaters.
- 59.9 All portable heaters in use in the common areas, and heaters provided by housing providers in residents' accommodation, should be subject to regular inspection and test, for example as part of the portable appliance testing (PAT) regime.
- 59.10 Ideally, portable electric heaters should be of the oil-filled radiator type, and the use of convector or fan heaters should be avoided where possible, particularly for vulnerable residents. Portable LPG gas heaters or open bar heaters should always be avoided.

## 60. Housekeeping

- 60.1 Good housekeeping is fundamental to reducing risk in residential accommodation, regardless of the type of accommodation. Controlling the presence of combustible materials and ignition sources not only reduces the potential for accidental fires to start and develop, it also significantly reduces the scope for deliberate fires. Moreover, it also ensures escape routes are free from obstructions that might hinder the evacuation of people from the building and the access for fire-fighters.
- 60.2 The ignition of combustible material within common corridors and stairways will give rise to the presence of smoke in escape routes, and the possibility of fire spread. Combustible materials should, therefore, be avoided, particularly in single stairway buildings.
- 60.3 In general, although not exclusively, the types of properties used for supported housing are akin to domestic premises, albeit that most residents will have their own rooms, and will share common facilities. However, even in these circumstances, suitable controls should be introduced to limit the presence of combustible materials and ignition sources in areas, such as protected stairways

and corridors used for means of escape, and in risk rooms that open onto the escape routes, which could affect the safety of residents in the event of a fire.

- 60.4 In sheltered and extra care housing, housekeeping issues are predominantly focussed on the common escape routes and common areas. In these environments, the ignition of inappropriately stored combustible materials in escape routes and common areas can present a risk to all residents.
- 60.5 In some premises, even if combustible material is present in a room separated from escape routes, such as, in sheltered or extra care premises, a lift motor room or storeroom, there is still a danger that any resultant fire could eventually threaten the common escape routes. Indeed, many such rooms have a higher probability of fire starting (e.g. communal boiler rooms and electrical switch rooms) and therefore should be kept free of combustible materials for that reason alone.
- 60.6 There is a tendency for some residents, in sheltered or extra care housing, to treat the common areas, in particular, as an extension of their own home. As a consequence, it is not unknown to find personal belongings being stored in lobbies directly outside accommodation, in corridors and stairways, along with furniture and electrical appliances.
- 60.7 Sometimes, residents see the common parts as communal amenity areas, where, for example, they can store personal items and place items of furniture. Some landlords encourage this, particularly in sheltered and extra care housing, in an effort to avoid the appearance of an institution. The presence of, for example, door mats, pot plants, pictures and seating is seen as a way of making housing homelier for the residents.
- 60.8 However, many housing providers struggle with the problems that can arise from this, particularly if residents take matters to extremes, and it is quite common to find personal belongings, furniture and mobility aids, including mobility scooters, stored in the common areas.
- 60.9 A separate, but further, problem is one of abuse, such as dumping unwanted belongings and rubbish in the common parts. Although this is considered less of a problem in specialized housing, due in part to the increased levels of management control, if allowed, it can result in people potentially putting their own lives at risk, and also endanger the lives of others.
- 60.10 The inappropriate actions of residents in this regard could also expose landlords and others who manage the common parts to liability under fire safety law.
- 60.11 The storage of such items in supported housing is not common due, in the main, to the size and layout of the premises and the higher degree of management control exercised over the premises and the residents. In many situations, there will be staff on site at all times and any housekeeping issues can, and will generally, be resolved locally. This level of control is not always possible in sheltered or extra care premises, dependent on staffing arrangements and the frequency of visits by remote scheme managers.
- 60.12 The actual potential for significant smoke production and fire development when combustible materials are ignited varies enormously, depending upon the inherent properties of the material, including its ease of ignition, the quantity present and its

configuration. Not all of the items commonly found are either easily ignitable or likely to give rise to a serious risk if ignited in isolation.

60.13 This suggests that it might be possible to allow some items to be present without unduly exposing residents to risk. As mentioned previously, the presence of, for example, door mats, pot plants, pictures and certain seating in the common areas does not generally present a significant risk.

60.14 However, the difficulties landlords/housing providers and others responsible for the common parts of sheltered and extra care premises, and, in some cases, supported housing, face is how to manage the use of the building in this way. Unrestricted use of the common parts is clearly not advisable. It will, therefore, be necessary to adopt one of the following alternatives:

- i) 'Zero tolerance'
- ii) 'Managed use'

60.15 A 'zero tolerance' approach is one in which residents are not permitted to use the common parts to store or dispose of their belongings or rubbish. No exceptions would apply. It would ensure that the common parts are effectively 'sterile', i.e. free of combustible material, ignition sources and obstructions. This is not an approach that would, or could, be generally applied to most supported housing. In other specialized housing, the benefits of this approach are:

- It is the simplest policy to adopt.
- It removes not only the risk from accidental fires, involving items in the common parts, but also denies fuel for the arsonist.
- There is no ambiguity regarding what is, or is not, allowed and, therefore, residents know exactly where they stand.
- It is easier for housing providers to 'police' when carrying out inspections.
- It is simpler to audit by those carrying out fire risk assessments.

60.16 There are, however, clear disadvantages including:

- By not taking into account the specific circumstances, this policy might not be risk proportionate.
- It unduly penalises those who could manage the common parts effectively.
- It denies residents an opportunity to personalise and improve their living environment, particularly in sheltered and extra care housing.

**A 'zero tolerance' policy should:**

- Always apply when there is doubt over the ability of residents to apply a 'managed use' policy.
- Always apply in an escape stairway that is of timber construction.
- Always apply where the building needs to be evacuated immediately, i.e. where the standard of fire protection does not support a "stay put" policy.
- Be adopted where there is justified concern regarding the potential for deliberate ignition.

- 60.17 The alternative approach is 'managed use'. This is an approach that allows strictly defined use of common parts, and limits the items allowed in order to control fire load and ease of ignition. It includes strict conditions on where such items can be kept. For example, a 'managed use' policy might permit residents to place pot plants and door mats outside their front doors, have framed pictures and notice boards on walls, allow furniture and seating in common areas and allow the storage of mobility scooters in places that do not present a risk and are not likely to cause obstruction.
- 60.18 This approach also has advantages and disadvantages. The advantages include:
- By making the common areas 'homely', it fosters a sense of pride and value.
  - It benefits older and disabled people, in particular, by allowing them to store mobility aids at the point of access.
  - It allows the specific risk factors in the building to be taken into account.
- 60.19 The disadvantages include:
- It is more difficult to adopt, as it requires a clearly defined policy with a list of 'dos and don'ts'.
  - There is more scope for misunderstanding, requiring more education of, and communication with, residents.
  - While it might be possible to minimize accidental fires with an appropriate 'managed use' policy, deliberate ignition may still be a concern.
  - It is more difficult to 'police', and for enforcing authorities and fire risk assessors to audit.
  - It is likely to require more frequent routine inspections.
- 60.20 The most appropriate approach will depend upon the specific circumstances, and whatever approach is taken should be considered within the overall context of the fire risk assessment and the fire safety measures in the building.
- 60.21 While it may be easier for landlords to take the 'zero tolerance' approach, it should be recognized that residents may be put at significant inconvenience and resort to infringements of the policy through frustration and need. This is particularly relevant in sheltered and extra care premises where, because of the general age profile and needs of residents, careful consideration of the approach taken needs to be given to meet the needs of residents.
- 60.22 Consideration of the needs of residents, particularly in specialized housing, in ways that encourage them to follow the constraints of such an approach can contribute significantly to fire safety. Providing suitable communal storage facilities, for example, close to residents' accommodation, can greatly assist.

**When adopting a 'managed use' policy:**

- Carry out a specific risk assessment, taking into account the particular circumstances in the building.

- Consider whether residents are disposed towards keeping 'rules', and avoid 'managed use' where this is not the case.
- Ensure that there are clearly defined 'dos and don'ts' that residents can easily follow in respect of what can, or cannot, be stored in common areas.
- Only apply it where there is a suitable standard of fire protection – particular care should be taken when applying it to situations such as single stairway buildings and 'dead end' corridors.
- Limit it to buildings in which the main elements of structure are made of concrete, brick and other non-combustible materials.
- Generally, only apply it to buildings which have effective security, e.g. access control.
- Reduce the potential for inappropriate storage by residents through the provision of communal facilities for storage, preferably close to residents' accommodation.
- Never allow combustible waste or re-cycling to be left awaiting disposal, not even in bin rooms - even short term presence poses a risk.
- Manage the type and location of furniture and seating in common areas.
- Never allow charging of mobility scooters, batteries or other electrical equipment in common parts, unless, exceptionally, in the case of mobility scooters, special siting conditions apply. Consider providing dedicated rooms for charging, suitably fire separated from the rest of the building.
- Restrict residents' storage of hazardous chemicals, gas containers or flammable liquids in storerooms/cupboards.

60.23 Regular inspection is a key component of maintaining good housekeeping. Landlords should ensure that every opportunity is taken to monitor the situation in premises and ensure that there is compliance with the policy adopted. This should apply to the common parts, including stairways, lobbies, corridors, community rooms and lounges, service rooms and bin rooms. It should also apply to plant rooms, landlords' stores, riser cupboards, lounges and other communal rooms.

60.24 Controls on the type and quantities of hazardous material stored by residents in storerooms located in common areas should also be a consideration. Where possible, regular inspections of storage areas should be introduced to avoid the storage of LPG cylinders, propane and quantities of flammable liquids.

### **Recycling**

60.25 Recycling initiatives encourage residents to avoid waste and use resources sustainably. However, collection schemes often involve materials being set out in corridors, lobbies and stairways within the common parts, giving rise to a potentially serious fire hazard.

60.26 Bags of clothes for charity and boxes/bags of newspapers and plastic containers represent a significant fire load. The material is in a form in which it can be easily ignited and lead to extensive fire spread and smoke production.

60.27 While only transitory, such material is nevertheless wholly inappropriate. It cannot be considered acceptable even where 'managed use' policies apply. There should



be alternative arrangements for recycling that do not rely on storage and collection in the common areas.

- 60.28 The fire safety design and, specifically, the smoke control arrangements, in sheltered and extra care housing are not intended to cope with uncontrolled fires of any significant size and nature in the common corridors and stairways.

### **Hoarding**

- 60.29 Hoarding of significant quantities of combustible materials and waste by individual residents within their own accommodation or storerooms can present a risk to the individuals themselves, and can also present a risk of fire spread to affect other residents in the premises.
- 60.30 Where landlords and housing providers become aware of instances of hoarding by residents, measures should be taken to reduce the risk. Lease or rental agreements may prevent residents from undertaking such activities and, in some instances, they may be prevented from engaging in such activities as it may be deemed to place others at risk. The involvement of external agencies and relatives may also be considered in extreme situations whereby individuals may place themselves at serious risk as part of a person-centred approach. Appendix 4 defines different levels of hoarding behaviour. Level 5 or above should be regarded as a potential mental health issue, requiring referral to Adult Social Care.

### **Community Rooms**

- 60.31 Many sheltered and extra care housing schemes will have community rooms for use by the residents. These will vary in size and complexity from a simple lounge to much larger, multi-use community rooms. Additionally, the larger schemes may have dedicated libraries, computer rooms, games rooms and meeting rooms.
- 60.32 In general, these areas will be under the control of the housing provider or management of the premises. In these circumstances, the fire hazards contained within these rooms can be controlled through measures already discussed in this section, together with regular inspections.
- 60.33 However, there has been a tendency in some premises for these rooms to become something of a dumping ground for furniture, electrical equipment and items such as music centres, TVs, music organs and similar equipment that belong to residents, or that have been gifted to the residents by friends, relatives or outside organizations. Often, these items do not meet current standards of design or safety and can also often be overlooked when inspection and testing regimes are introduced. In many cases, the use of trailing leads and extension cables to power electrical equipment is quite prevalent in community rooms, adding to the potential fire hazards associated with their use by residents.
- 60.34 During inspections, particular attention should therefore be given to community rooms and the risks associated with non-standard furniture and the use of electrical equipment. Suitable policies and procedures should be introduced to control and monitor the type and standard of equipment used in community rooms together with appropriate inspection and testing regimes.

## **61. Mobility Scooters**

- 61.1 There has been a marked increase in the use of mobility scooters throughout the housing sector, particularly in sheltered and extra care housing schemes. Mobility scooters are now commonly used by residents and, for some residents with severe mobility problems, scooters are the only means they have of being able to travel beyond the front door of their own accommodation.
- 61.2 It is recognized that the use of mobility scooters can enhance the quality of life for many older or less mobile residents, who otherwise may be limited in their ability to access common facilities provided in the premises and also access external facilities in the wider community. However, for some people, the use of mobility scooters is more of a lifestyle choice and their use is not critical to their continued independence.
- 61.3 With the increased use of mobility scooters comes the corresponding fire safety concerns associated with their storage and charging. The design of many premises, particularly smaller and older premises, does not always lend itself easily to the safe storage and charging of mobility scooters. The lack of space and the layout of the corridors, lifts and stairways in common areas means that individuals will often leave scooters adjacent to their front entrance doors on protected escape routes or within protected stairways. The facilities, or lack of facilities, for the safe charging of mobility scooters is a particular concern and poses a significant risk if carried out by residents in the common areas. The provision of suitable spaces for storage and charging of mobility scooters should be considered at the design stage for new premises.
- 61.4 Although predominantly a problem associated with sheltered and extra care housing, the use of electrically powered wheelchairs and mobility scooters may also occur in some supported housing. The scope to provide facilities for the safe storage and charging of wheelchairs or scooters in premises used for supported housing will potentially be limited and difficult to achieve. However, the risk to residents in supported housing is of no less concern and measures to reduce risks as a result of storing and charging mobility scooters must form part of the overall risk assessment.
- 61.5 Mobility scooters involved in a fire can release large volumes of smoke and generate significant heat outputs. If mobility scooters stored in the common escape routes are involved in a fire, there is a potential that escape routes will become impassable and residents could be placed at significant risk in the event of a fire. Therefore, appropriate measures must be considered within the fire risk assessment to address the risks posed by the storage and charging of mobility scooters.
- 61.6 The number of fires involving mobility scooters in England and Wales remains relatively small. It is, therefore, difficult accurately to quantify the risk to life that mobility scooters present if involved in a fire, whilst being stored or charged, based on the limited statistical information available. The number of fires recorded include fires in mobility scooters that occur when scooters are stored or charged outside premises, and, arguably, in these situations, they present less of a risk, although it is recognized that, even when fires occur outside, there remains a potential for fire to spread into a building, so placing residents at risk.
- 61.7 However, there appears to be a general consensus amongst fire safety professionals that the risk of fires occurring in mobility scooters is considerably

higher when they are being charged, due mainly to defective or badly maintained electrical equipment or batteries.

- 61.8 Certainly, the two most common causes of fires in mobility scooters would appear to be arson and faults in electrical equipment/wiring or charging equipment, which is more likely during the charging process itself.
- 61.9 Further information on the types and design of mobility scooters is set out in Appendix 5. For additional guidance, reference should be made to the CFOA guide.

### **Storage and Charging Arrangements**

- 61.10 The provision of suitable and safe storage and charging facilities for mobility scooters is an emotive subject, with a diverse range of views expressed by landlords, housing providers, enforcing authorities and residents alike.
- 61.11 It is clear that guidance on this subject can only offer potential options that others will need to consider and adapt to meet the needs of individual users and the building concerned. This, like any other fire hazard, cannot be considered in isolation and there is a myriad of factors that will determine the location and type of storage most suitable for any one particular situation and building. The principles of fire risk assessment, based on likelihood and consequence, need to be applied when determining the risk associated with the storage and charging of mobility scooters.
- 61.12 This guide therefore considers a range of possible options and risk reduction measures that those responsible for premises, risk assessors and enforcing authorities can consider as part of the overall fire risk assessment for individual premises. These options are discussed in Appendix 5. However, it should be noted that the options in Appendix 5 may not be the only options available and there could well be alternatives that would provide a similar or even better solution.
- 61.13 It must be accepted that the provision of safe storage and charging facilities in some premises will prove difficult and, in certain locations, it may not be physically possible to provide suitable storage or charging facilities, either internally or externally. In these situations, it is recognized that, owing to the size, design, layout and access to the building, it may not be possible to allow residents to store or charge mobility scooters in these locations.
- 61.14 Where the storage of mobility scooters is not possible, the opportunity to hire vehicles could be considered. Schemes such as 'Shopmobility,' or local schemes such as 'ScootAbility' in the London Borough of Camden, provide for delivery of vehicles to hirers' homes, if individuals are unable to store or charge vehicles where they live. It should be noted that this option can be considered in all locations where individuals may decide to hire a vehicle, as opposed to buying a scooter, thereby removing the potential risks associated with storing and charging mobility scooters.

### **Policies and Procedures**

- 61.15 There should be clear policies and procedures in place that address the risks associated with the use of mobility scooters.

- 61.16 Many landlords and housing providers already have policies relating to this and, in some cases, residents are required to apply and seek permission to use, store and charge mobility scooters on the premises. Policies will generally cover the adaptation of premises, the provision of storage and charging facilities, maintenance requirements and the ongoing management and control of the use of mobility scooters in premises.
- 61.17 Residents should be made fully aware of the policy and, in particular, any restrictions that may be placed upon them regarding the use, storage and charging of mobility scooters.

## **62. Furniture and Furnishings**

- 62.1 Between 2010 and 2016, fires in which furniture and furnishings were the materials first ignited accounted for 20% of fatalities in sheltered housing.
- 62.2 The type and quantity of furniture and furnishings provided by housing providers in the common parts of premises should be strictly controlled.
- 62.3 Upholstered furniture, furnishings and textiles that can be easily ignited or contribute to rapid fire spread should be avoided in the common parts. The flammability and ignitability of furniture and furnishings is subject to legislative control and best practice guidance should be followed.
- 62.4 The Furniture and Furnishings (Fire) (Safety) Regulations 1988, as amended, were introduced to control fires in domestic premises. The Regulations place requirements on the flammability of domestic furniture and beds. Any furniture and bedding provided by landlords should comply with this legislation. Guidance in BS 7176 should be followed by landlords who provide furniture and furnishings in the common areas of premises. In general, furniture should be ignition resistant to Ignition Source 5 of BS 5852; though such furniture can still be set alight, it is particularly resistant to ignition.
- 62.5 In supported housing, it may be necessary to consider the ignitability and flammability of bedding, mattresses and curtains in use in housing and bedrooms, particularly where these are provided for the use of residents.
- 62.6 Guidance produced by the Department of Health on the type of furniture and furnishings in hospitals is given in HTM 05-03 Part C (Firecode: textiles and furnishings). In situations where residents are particularly vulnerable, a higher standard of fire safety, more akin to care or hospital environments, may be considered necessary. This can be determined by a person-centred fire risk assessment (see Part D).

## **63. Building Works and Contractors**

- 63.1 There are other hazards that might only be present on occasions. Good examples are the hazards associated with building works and contractors' operations.
- 63.2 Irrespective of whether they are undertaken by in-house personnel or a contractor, there is potential, during such works, not only to start fires or create new hazards, but also to impair fire safety measures, even if only temporarily.

- 63.3 Housing providers and other Responsible Persons should place strict obligations on those undertaking works to implement appropriate fire precautions when carrying out works and to avoid the creation of fire hazards or impairment of fire precautions. Incorporating conditions within contracts is one common means of achieving this, but this should also be reinforced by scrutiny of method statements and by inspections during the course of the works. This is often applied rigorously to major projects, but less so in the case of small works and maintenance. However, the latter may still involve the potential to create hazards and it is important that account is taken of this.
- 63.4 Of most concern is the potential for fires to be started when 'hot work' is undertaken. It is vital that control is exercised over such works. Usually, this is achieved by adopting a 'permit to work' system, which places obligations on those carrying out the work to inspect the areas in which work is taking place, both before and after the work, and to take all necessary precautions, including provision of accessible fire extinguishers. Happily, as a result of control measures, fires started by hot work are rare in sheltered housing.
- 63.5 The attention of contractors should be drawn to the lines of compartmentation in the building, so that they are aware of the need for fire stopping and similar measures where compartment walls or floors are breached (e.g. to permit the passage of pipes or cables). Where work involves penetrations in compartmentation, following the work, checks should be made to ensure that the original fire resistance is restored.
- 63.6 Further advice on fire safety during construction work is available from the HSE and the Fire Protection Association.

**Examples of new hazards that can arise from building works include:**

- Placing site huts and waste skips too close to the building.
- Leaving gas cylinders inside the building overnight to avoid the need to store them properly away from the building.
- Blocking exit routes.
- Leaving combustible building materials and waste in common parts.
- Wedging of fire doors.
- Disablement of fire detection.

## 64. Lightning Protection

- 64.1 Lightning is the source of ignition in only a small proportion of fires. However, the risk is dependent on factors such as the location of the building, its size and construction, its proximity to other structures and the local topography. A risk assessment tool for determining the need for lightning protection on a block of flats can be found in BS EN 62305, but normally needs a specialist to apply it.
- 64.2 Retrospective installation of lightning protection is rarely likely to be considered essential in existing specialized housing. However, any existing lightning protection systems should be subject to regular inspection and testing. Guidance on this is available in BS EN 62305.

## 65. Medical Gases

- 65.1 The extent of any storage or use of medical gases in individual premises will vary and this may also vary over time, dependent on the specialized needs of the residents. However, what can be anticipated is that, in most specialized housing, there will be some medical gases, including oxygen, stored or used in either residents' accommodation or the common areas under the control of management.
- 65.2 Although, in most instances, these gases are not inherently flammable, cylinders will present an explosion risk if exposed to extremes of heat and fire. Medical oxygen can also present an additional risk; if leaks occur, it can create an oxygen rich atmosphere that will increase the intensity of a fire. In confined, unventilated rooms, it also has the potential to increase the combustibility of materials close to ignition sources such as cigarettes, e-cigarettes and cooking that would not necessarily be considered to be a significant risk.
- 65.3 Cylinders should, preferably, be stored outside in a well-ventilated, secure location. Where cylinders need to be stored inside premises, the numbers should be kept to the minimum required for normal day-to-day use. Any rooms/cupboards used for storage should be well ventilated, kept secure and be adequately signed.
- 65.4 Cylinders should not be stored in combination with combustible materials or materials containing, or contaminated with, oils or grease. Empty cylinders should be stored separately from full cylinders.
- 65.5 Some residents in specialized housing may use medical gases in their own accommodation, either on a temporary basis or sometimes permanently. This will generally involve the use of small mobile oxygen therapy units. In these instances, residents should be given advice and guidance on the safe use and storage of such equipment. Residents should be advised not to use oxygen therapy when smoking or use it in close proximity to other forms of ignition, such as cookers or heaters.
- 65.6 Although it can be anticipated, by the fire and rescue service, that medical gases might be in use in one form or another in specialized housing, they should be made aware of the location of stored cylinders and rooms where medical gases are used or located. This information should, ideally, be held in premises information boxes that are easily accessible to the fire and rescue service. The information may also be held by fire and rescue service (e.g. as a result of automatic provision of this information by the oxygen supplier following delivery to the user). This allows the information to be held on data systems within fire appliances.
- 65.7 It is accepted that maintaining this information up to date can sometimes be difficult and the use of medical gases by residents changes on a regular basis; it can, for example, be prescribed overnight without the knowledge of those responsible for the management of the building. The provision of warning signs on residents' accommodation is another consideration but, again, this needs to be managed to ensure that signs are removed when the cylinders are no longer in use and that new signs are provided where necessary.

# Part G: Managing fire risk – fire protection for the person

## Key Points:

- A person-centred approach should include consideration of fire prevention, as simple measures, such as use of safer forms of ashtrays or smoking aprons by those who smoke, may offer significant benefits.
- A person-centred approach should also consider how a fire might develop and spread to harm the resident. For example, concern that a resident might set fire to themselves, as a result of smoking in bed, suggests that there is scope to reduce risk to the resident if they were to use fire-retardant bedding.
- It must be recognized that efforts to better protect a person in their own dwelling might not be effective if, for example, the person's mental capacity is such that they are unlikely to remember to follow the advice given or to implement measures provided for their protection.
- Irrespective of efforts to improve measures to reduce the likelihood of a fire, or its spread and development, a fundamental element of a person-centred approach is to ensure that any fire is detected as early as possible and that the resident is alerted to it effectively.
- An LD1 fire detection system, as defined in BS 5839-6, is considered the minimum that should be in place in the accommodation of a high risk resident.
- It is essential that the fire detection and alarm system provided in the accommodation of a high risk resident is monitored remotely via a suitable means, such as a social alarm ("Telecare") system that transmits alarm signals to a Telecare alarm receiving centre (ARC). Depending upon the nature of the housing, and the circumstances of the individual resident, there may be staff on site at times who can provide this response, but remote monitoring will still be necessary to provide a response at other times.
- Fire suppression may be an option to better protect an individual resident, especially if there is concern that a resident might set fire to themselves and have significant difficulty in responding appropriately. Use of a personal protection watermist system offers a practical means of introducing fire suppression into an existing dwelling. These systems can address very specific fire scenarios, but the limitations of such systems need to be recognized.
- Full coverage of a dwelling by a sprinkler or watermist system can address a broader range of likely fire scenarios in such accommodation.
- Ultimately, a person's level of need might mean that the risk cannot be reduced sufficiently in their current dwelling, even with the measures advocated in a person-centred approach. To better ensure their safety in case of fire, a resident might need to live in different accommodation, e.g. housing which is already fitted with a high standard of automatic fire detection and a fire suppression system.
- The difficulties a resident experiences in evacuating themselves in the event of fire might be so severe that, to ensure their safety in the event of fire, the most suitable

accommodation for them might be a care home, unless, for example in supported housing, a support organization provides additional staff to assist with evacuation.

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## 66. Introduction

- 66.1 In Part D of this guide, the concept of a person-centred fire risk assessment was discussed in relation to residents who, for various reasons, are especially vulnerable, not only in relation to the impact of a fire in their accommodation, but also to a propensity to contribute to the likelihood of a fire or to its development. For some residents, factors that are indicative of a high likelihood of a serious fire, in combination with a high likelihood of harm in the event of a fire, due, for example, to significant mobility constraints, point to the individual being at significantly higher risk than other residents. The role of the person-centred fire risk assessment is to confirm that the resident meets the profile of such a high risk individual and then allows consideration to be given to measures that form a person-centred approach to enhanced fire protection for that person in their own dwelling.
- 66.2 A person-centred approach is intended to determine measures over and above those that would be provided as part of the protection recommended in Part H of this guide. However, it is likely that the latter measures will contribute to the protection of a high risk resident in their own accommodation. For example, the smoke alarms provided within flats in a sheltered housing scheme may, if they meet the recommendations of this guide, be sufficient to provide the level of early warning advocated as part of a person-centred approach.
- 66.3 Key fire risk factors that are likely to lead to the conclusion that the resident is high risk include:
- A propensity to cause a fire, for example, through careless use of smokers' materials.
  - The potential for greater fire development and a more intense fire of longer duration resulting from, for example, hoarding.
  - Reduced capacity to respond appropriately to fire alarm warnings or signs of fire.
  - Reduced physical ability affecting the resident's ability to escape promptly.
- 66.4 A typical profile of a high risk resident would be an individual who, for example, smokes, has the potential, due to their physical health or mental capacity, to inadvertently set fire to their clothing, whether in bed or in their lounge, and, due to physical health and mobility issues, will be slow to evacuate without assistance.
- 66.5 To date, the person-centred approach has been used to target specific measures such as:
- Better control measures, such as use of fire-resistant bedding, safer ashtrays and fire retardant smoking aprons, which a vulnerable person can wear while smoking.
  - Improved domestic fire detection, including remote monitoring via a Telecare ARC.
  - Fitting personal protection watermist systems.

## 67. Limitations of this guidance

- 67.1 Fire and rescue services have been identifying and highlighting individuals who are at most risk from fire, and have targeted advice through home safety visits, for a

number of years. It is a relatively new development for them to go on to engage with other stakeholders, such as the housing provider, care provider and local authority adult social services departments, in efforts to secure the improvements considered necessary to safeguard the person from fire in their dwelling.

- 67.2 Given that this relates to the risk to a person in their own home, there is no obligation on the Responsible Person for the building, as defined in the Fire Safety Order, to provide the additional fire precautions or control measures that might be determined as beneficial to the safety of the resident following a person-centred fire risk assessment. However, housing providers, care providers and others who consider that the fire protection provided might not be sufficient to address their concerns regarding an individual resident, who they have determined as at high risk, can use the outcome of such a person-centred approach to seek a review by all stakeholders in the care of the individual, led and coordinated by adult social services departments, in order to establish means to implement such improvements.
- 67.3 It must be recognized that a person-centred approach relies upon the voluntary cooperation of the resident; ultimately, the measures determined as necessary to address the risk will only be effective if the resident accepts that they are beneficial and is willing to adopt them. Residents may own their homes (for example, in the case of sheltered housing where residents are leaseholders), and there may be no scope for building owners/housing providers or others to make the fire safety improvements that emanate from a person-centred approach.
- 67.4 It must also be recognized that efforts to better protect a person in their own dwelling, whether by reducing the likelihood of fire (fire prevention) or better protecting them should fire occur, might not be effective if, for example, the person's mental capacity is such that they are unlikely to remember to follow the advice given, or to implement measures provided for their protection (e.g. they fail to use fire-retardant bedding materials with which they have been provided or the bedding is incorrectly laundered).
- 67.5 It should also be recognized that, ultimately, a person's level of need might mean that the risk cannot be reduced sufficiently with the measures advocated in a person-centred approach. To better ensure their safety in case of fire, a resident might need to live in different accommodation, e.g. housing which is already fitted with a high standard of automatic fire detection and a fire suppression system. It could also be the case that the difficulty a resident experiences in evacuating themselves in the event of fire might be so severe that, to ensure their safety in the event of fire, the most suitable accommodation for them might be a care home, or other accommodation in which there are sufficient staff to assist the person to escape (unless, for example in supported housing, a support provider is prepared to provide additional staff to assist with evacuation).

## **68. Immediate actions**

- 68.1 Effort to prevent fires is recognized as an effective way in which to reduce the overall risk in a building by reducing the likelihood of a fire. In Part F of this guide, measures to prevent fires in the building are discussed. Engaging with residents to provide advice on fire safety and improve fire prevention in a resident's own dwelling is advocated in Part I of this guide. Fire and rescue services have a valuable role to play in engagement with residents through home fire safety visits,

and these can be used to identify high risk residents and determine the scope for improvements to fire prevention as part of a person-centred approach.

- 68.2 In the case of a high risk resident, advice and efforts to improve fire prevention are immediate actions that can be taken to reduce the risk. However, a realistic assessment must be made of the impact from this advice. It must be recognized that, in some cases, the resident's mental capacity and behaviours may diminish the likelihood that these measures will be effective.
- 68.3 The scope to reduce the likelihood of fire should address common ignition hazards within the home emanating from, for example:
- Smoking and, in particular, whether smokers' materials will be disposed of safely.
  - Electrical wiring and appliances and, in particular, whether there is obvious overloading of sockets or damage to appliances, leads and plugs that could give rise to a fire.
  - Heating, and especially whether there is use of inappropriate portable heaters or appliances that could easily be misused.
  - Use of electric blankets, especially blankets showing signs of age and wear.
  - Cooking, and especially whether there is a likelihood that a fire could occur from the cooker being left unattended.
- 68.4 Simple improvements can often be achieved, for example, by encouraging people who smoke to use appropriate, safe ashtrays and to dispose of the contents carefully. Use of metal waste bins with lids may also be beneficial to reduce the risk if there is concern that ashtrays might not be emptied appropriately. Fire retardant smoking aprons can be worn while smoking; these cover the clothing of the wearer and extend to cover the gaps between a smoker and the sides of their chairs. Nevertheless, the residual risk of fire must still be considered, especially if there is doubt over the likely effectiveness of fire prevention advice given, due, for example, to the resident's mental capacity and behaviours.
- 68.5 With regard to the hazards of cooking (e.g. for residents with dementia), automatic cooker isolation devices are available. These automatically isolate electricity or gas supplies to a cooker when a dangerously high temperature occurs at the cooker, or when a pre-set cooking time period has elapsed, so preventing occurrence of a fire. This is one example of "technology assisted care" which safeguards vulnerable residents from fire.
- 68.6 Concern that a resident might set fire to themselves, as a result of smoking in bed for example, suggests there is scope to reduce risk by ensuring that upholstered furniture, including beds and mattresses used by the resident have met the appropriate ignition resistance tests for domestic furniture, as required by the Furniture and Furnishings (Fire) (Safety) Regulations 1988 (as amended). However, while mattresses used in domestic dwellings are required to be resistant to ignition, bedding is not. Nevertheless, fire-resistant bedding, such as pillows, pillowcases, duvets, duvet covers and sheets are available and their use can be of significant benefit in reducing the risk to such a resident. Such bedding materials should meet the appropriate tests stipulated in BS 7175: 1989 *Methods of test for the ignitability of bedcovers and pillows by smouldering and flaming ignition sources*.

- 68.7 A key fire risk factor can be the amount of available combustible material in a dwelling. Hoarding behaviour can increase the normal fire loading within a dwelling significantly and, while residents should be encouraged to reduce the quantities of such materials, a realistic assessment should be made of the likely success of such advice.

## 69. Short/Medium Term

### Fire Detection

- 69.1 Irrespective of efforts to improve measures to reduce the likelihood of a fire, or its spread and development, a fundamental element of a person-centred approach is to ensure that any fire will be detected as early as possible, and that the alarm signal will be effective in alerting the resident and result in summoning of the fire and rescue service. In some supported housing, there is no need for automatic transmission of fire signals to an alarm receiving centre (e.g. where there are staff present on a 24-hour basis).
- 69.2 Fire detection and alarm systems in dwellings within specialized housing are discussed in Part H of this guide. This highlights the fire alarm arrangements most suitable for specialized housing and the standards that should be achieved, including the type and extent of detection in the dwellings within the building. For example, it is commonplace for there to be a mixed system in sheltered and extra care housing, whereby a communal system covers the common parts but, within each flat, there are domestic smoke/heat alarms.
- 69.3 In Part H of this guide, it is recommended that the systems within individual flats should meet the recommendations for a Category LD1 system, as defined in BS 5839-6, such that hallways are covered, along with all rooms, other than toilets, shower rooms and bathrooms. It is acknowledged that this standard is not currently common in existing sheltered housing. However, a Category LD1 system is considered the minimum that should be in place in the accommodation of a high risk resident.
- 69.4 It is vital that smoke (and heat) alarms in such a system are interlinked, such that they all sound the alarm, irrespective of which one has detected the fire. This applies equally to battery-operated smoke and heat alarms (Grade F, as defined in BS 5839-6), which might be fitted as a short-term interim measure. It is also important that, as discussed in Part H of this guide, the warning provided takes account of the person's response to sound. Vibrating pads and visual alarms might need to be provided if a person is deaf or hard of hearing. A system that incorporates voice sounders might be appropriate where conventional fire alarm signals might cause confusion or distress.
- 69.5 In the case of high risk residents, concern that a resident may not respond appropriately to such a warning, or may not be able to make their escape promptly and effectively, means that it is essential for the fire detection and alarm system provided in the dwelling to be monitored remotely via a suitable means, such as a social ("Telecare") alarm system that transmits fire signals to a Telecare ARC. This will facilitate direct speech with the resident and the means to ensure that the fire and rescue service is summoned to the fire at an early stage.

- 69.6 As discussed in Part H of this guide, monitoring is regarded as an essential component of the protection of sheltered housing and extra care housing. It allows for response to, and filtering of, alarms when staff of the housing provider or care provider are present, but with a response from an ARC at other times. In sheltered and extra care housing, provided the guidance in Part H is met, and the remote monitoring comprises a Telecare system that facilitates direct speech with the resident, the monitoring required for a person-centred approach will already be in place.
- 69.7 In Part H of this guide, the type of fire detection and alarm system needed for supported housing is discussed. Individual resident's bedrooms are likely to be covered by the communal system in this type of accommodation.
- 69.8 Remote monitoring is not likely to be part of a fire detection and alarm system in supported housing, where residents are expected to evacuate immediately on activation of the fire alarm system. It might be the case that, in some supported housing schemes, there will be staff present from the care provider who can respond to the alarm from a detector in a high risk resident's room, but this would need to be a reliable response at all times.
- 69.9 Where there is doubt as to the effectiveness of such a response, particularly the immediate summoning of the fire and rescue service in the event of a confirmed fire, use of remote monitoring, even if staff can filter alarms when present on site, will need to be provided. The need for this to be restricted to a detector in an individual's bedroom, or to apply to the entire system, will need to be considered carefully. The former may be achieved most effectively by a separate smoke alarm connected to a dispersed Telecare alarm system in that person's room only.

### **Fire Doors**

- 69.10 As discussed in Part H of this guide, most flats in sheltered or extra care housing, are unlikely to need fire-resisting doors to rooms unless they are particularly large flats. However, fitting fire-resisting doors to rooms in a flat occupied by a high risk resident might offer some benefit by restricting the spread of a fire in a room, so that it is slower to affect other parts of the flat and will thus allow more time for the resident to escape, if they are not in the room of fire origin. This could be considered as part of the package of measures to better protect a high risk resident, especially if hoarding is a significant issue.
- 69.11 However, this will not reduce the risk to a person present in the room of fire origin and it is also dependent on the resident closing doors to rooms when not in use, unless the doors are self-closing. Again it must be recognized that a resident's mental capacity and behaviours may mean that such doors are not closed and, therefore, the potential benefit of fire-resisting doors is negated.

### **Fire Suppression Systems**

- 69.12 A person-centred fire risk assessment might identify that an individual is particularly vulnerable through a combination of factors, including a high likelihood that the resident could set fire to themselves from smoking, a high probability that they will not respond appropriately to a fire alarm warning and a lack of mobility that means they cannot readily evacuate themselves. In these circumstances, even with a good standard of fire detection and alarm system in the dwelling that is monitored

remotely, there might still be a high likelihood that the person will suffer serious harm from a fire.

- 69.13 The presence of an automatic fire suppression system, such as domestic sprinklers or a domestic watermist system, is likely to be the only further practical measure to reduce the potential harm to a resident in these circumstances while they continue to live in their own dwelling. A person-centred approach should consider whether such protection is likely to be effective and could be implemented within the dwelling. Indeed, for a high risk individual with such vulnerability, moving to accommodation that has this level of protection might need to be considered. However, it should be recognized that, as sprinkler heads are heat actuated, if the resident is present in the room of fire origin, and especially if the fire is caused by the individual setting fire to their clothing, the resident may still suffer significant harm before sprinklers can act to prevent this.
- 69.14 Retrofitting such a system in an individual dwelling, such as a flat in a sheltered housing scheme, while possible, may not be considered realistic as part of a person-centred approach for an individual resident. A recent development has been the use of personal protection watermist systems, which are self-contained systems and can more readily be fitted in existing dwellings. They, typically, comprise a pressurised container of water with a single nozzle that can discharge water over a defined area, such as a bed or a chair.
- 69.15 By virtue of being operated by smoke detectors, these systems can act much sooner to suppress a fire and, therefore, further reduce the likelihood of harm in these circumstances.
- 69.16 It is likely to be practical to utilize personal protection systems to provide protection in the short to medium term in a dwelling. However, the limitations of such systems need to be taken into account. These include the following:
- The systems are local application systems and, as such, the water distribution will be localized and limited in extent. This makes them suited to protecting an individual, who is largely confined to a chair or to a bed. It will not protect someone who is involved in a fire outside the water coverage area.
  - The systems are aimed at controlling and extinguishing the source of the fire and, therefore, will only be effective against fires starting in the water coverage area. Thus, a system covering an individual in a chair will not be effective if a fire were to start elsewhere in the room or the flat, even though the system may be discharged - smoke detectors provided to actuate the watermist system will, equally, be responsive to fires starting elsewhere in the room and not just in the area covered by the water discharge. As such, they only protect a person from a very limited range of ignition scenarios.
  - The systems could give rise to false discharges of water, given that they are operated on detection of the fire by smoke detectors. Unwanted activation of smoke detectors could result from normal day to day activities in the dwelling, such as cooking. (Accordingly, multi-sensor detectors with suitable algorithms to prevent false alarms are preferable to standard smoke detectors.)
  - More than one system might be needed to protect a resident, e.g. one system in the lounge and one in the bedroom.
- 69.17 In the same way that the smoke alarms, referred to earlier, need to be monitored remotely by a suitable means, such as a Telecare alarm system, so too do personal

protection watermist systems. This will facilitate direct speech with the resident and the means to ensure that the fire and rescue service is summoned to the fire, which, although contained by the watermist system, might not be extinguished.

- 69.18 There are currently no British Standards for personal protection watermist systems and guidance on their use and application is dependent on manufacturer's guidelines. There is, however, a standard for approval of such systems by the Loss Prevention Certification Board (LPCB) (LPS 1655: Requirements and test methods for the LPCB approval and listing of personal protection systems). As LPS 1655 is a test specification, it will not assist in determining whether a personal protection watermist system is suitable for the characteristics and home environment of a vulnerable person. However, suitable guidance on the use, deployment and limitations of these systems in the homes of vulnerable people has been produced by the Building Research Establishment in partnership with London Fire Brigade (see Bibliography).

## 70. Long Term

- 70.1 Undoubtedly, if a high risk resident is likely to be present for the long term in their own accommodation, a fire suppression system, such as a domestic sprinkler system or watermist system, offers the highest level of fire protection for the individual. As stated above, a person-centred approach might conclude that a particular resident would be better protected from fire by moving to accommodation with such fire suppression.
- 70.2 Providers of specialized housing that incorporate fire suppression when a scheme is built introduce the flexibility to accommodate the changing circumstances that residents experience, which make them more vulnerable over time, without the need to consider moving to different accommodation.

## 71. What if a resident cannot self evacuate?

- 71.1 Fundamental to the recommendations in this guide is the premise that most residents can self-evacuate, but, given the mobility and health issues that some residents experience, it is recognized that, for some, this poses considerable difficulties. In practice, it could be the case that the difficulties a resident experiences in evacuating themselves in the event of fire are so severe that the only suitable accommodation might be a care home, or accommodation in which there are sufficient staff to assist the person to escape in the event of fire. A person-centred fire risk assessment will identify such residents, and, if a suitable solution cannot be created, advising a resident to move to alternative accommodation might be the only viable outcome for that individual; this may be outside the control of housing providers.
- 71.2 However, with the reduction in available care home beds across the country, finding suitable alternative accommodation is not always an option. In the case of supported housing, in order to react to service users' health issues, some support organizations may provide additional equipment and, in some cases, additional staff for evacuation purposes.

# Part H: Managing fire risk – fire protection for the building

## Key Points:

- The limitations and needs of the residents of specialized housing should be taken into account when determining suitable fire protection measures.
- Benchmarks should be used to assess the standard of fire protection. These are not prescriptive, and the aim should be to use them to determine a reasonable approach to improving fire safety where the fire protection measures have been found to be inadequate.
- Initially, these benchmarks might be those that were in place when the property was built, rather than those that currently apply. However, upgrading existing buildings to meet current benchmarks may be appropriate in situations in which the original standards are far removed from what is acceptable today (which may arise from a change in occupancy) and, as a result, there is unacceptable risk.
- While the appropriate solution might be to restore what was originally in place (e.g. if alterations have detrimentally affected fire safety), upgrading to achieve current benchmarks should take place when the opportunity arises, such as through the normal process of refurbishment.
- When upgrading fire precautions, fire protection products and services should be fit for purpose and properly installed. Third party certification schemes are available for many such products and services.
- Effective compartmentation is fundamental to ensuring adequate fire safety in sheltered and extra care blocks that are designed on the principle of 'stay put'. It is vital, therefore, that floors and walls are in good condition and that there are no openings or voids that would permit uncontrolled spread of fire and smoke.
- Particular attention should be given to the potential for fire spread in roof voids and through any common ventilation ducts that pass from flat to flat.
- Acceptance of excessive travel distances and other departures from current benchmark design guidance needs careful consideration as part of the overall risk assessment process because of the vulnerable nature of the majority of residents of specialized housing. This does not imply that all existing premises need to be brought up to meet current standards without clear justification. However, compensatory measures, such as increased levels of automatic detection, or automatic fire suppression systems, may be required in some cases.
- Original fire-resisting doors, including flat entrance doors in many older properties, may not meet current standards. Replacing these doors should not be made generic to all existing properties. In some situations, it will be appropriate to accept the door as it is; in others, an upgraded door will suffice, or it may be appropriate to replace the door or doorset. This will depend upon the risk.
- The fitting of suitable self-closing devices to fire-resisting doors, including flat entrance doors, and some doors in supported housing, is an essential short term measure.



- 'FIRE EXIT' signs will not normally be required in supported housing or small blocks of sheltered or extra care blocks of flats, particularly those with a single stairway.
- Emergency escape lighting will generally be required in all but the smallest of properties.
- All flats in sheltered and extra care premises should be provided with smoke/heat alarms throughout the flats, with remote monitoring by an alarm receiving centre. The use of a Telecare system enables efficient filtering of false alarms.
- In sheltered and extra care housing, other than in blocks with no communal facilities, fire detection and alarm systems should be installed in the common parts, with remote monitoring by an alarm receiving centre.
- In supported housing, a comprehensive fire detection and alarm system should be provided throughout the property. In small premises, this may comprise mains-operated, interlinked domestic smoke alarms.
- Provision of fire extinguishers is not normally considered necessary in specialized housing, other than where staff are employed on site, and in plant rooms, communal facilities, staff rooms, etc.
- Fire-fighting facilities provided in existing properties should, at least, meet the standard of the day the properties were built and should be maintained in efficient working order.
- Restrictions apply to the nature and construction of external cladding systems and to the materials used for façades. This is in order to limit the potential for external fire spread.

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## 72. Introduction

- 72.1 This Part of the guide is concerned with the in-built fire safety measures provided in specialized housing, i.e. those elements necessary to ensure a satisfactory standard of fire protection, such as compartmentation, means of escape, fire detection and alarm systems, etc.
- 72.2 The objectives and principles behind these measures are discussed in Part B of this guide. The aim of these measures is to ensure reasonable safety for those escaping from a fire and, where a 'stay put' policy applies, for those remote from, and unaffected by, the fire, while they remain in their flats.
- 72.3 It needs to be recognized that premises providing supported housing differ significantly from purpose-built sheltered housing and extra care housing in terms of size, layout and construction. The fire protection requirements for these two distinct groups of premises will, as a consequence, also differ.
- 72.4 In general, although not exclusively, the types of properties used for supported housing are more akin to domestic premises, albeit that residents will have their own rooms and will normally share common facilities. Indeed, in some situations, the objective of supported living will be for individuals to live in an environment that, as close as possible, resembles a domestic house. A significant number of premises will, in fact, be domestic family dwellings, which have been converted or extended to provide supported housing. Accordingly, fire protection requirements will generally follow the principles adopted for domestic properties, shared housing and houses in multiple occupation, with a simultaneous evacuation policy of all residents in the event of a fire.
- 72.5 In sheltered and extra care housing, the principles of fire protection design will be based on a 'stay put' evacuation policy, in which only the residents of the flat of origin will need to evacuate in the event of a fire and all other residents remote from, and unaffected by, a fire should be safe to remain in their flats.
- 72.6 Sheltered and extra care housing schemes are not generally staffed to enable assistance to be provided to evacuate residents. Therefore, the assumption made in the design of new premises is that residents are able to escape unaided from their own flats and make their way to a place of safety, using the common means of escape. However, it is recognized that, for some residents, their vulnerability may make this particularly difficult and certainly slower. While the design of the means of escape and other fire safety measures in these premises is not based on external assistance, there will, ultimately, be reliance on rescue by the fire and rescue service in the event that some individual residents cannot escape by themselves.
- 72.7 In all specialized housing, it is recognized that, because of their particular vulnerability, residents may need longer to evacuate, regardless of the evacuation strategy adopted. Therefore, the possible limitations of residents of specialized housing, in respect of mobility, age and mental capacity, should be taken into account when determining the fire protection measures required.
- 72.8 This Part of the guide sets out benchmarks, against which the standard of safety in particular premises can be assessed, but these should not be seen as prescriptive standards. The measures recommended in this part of the guide are intended to achieve an integrated "package" of fire safety measures. Care should be taken not

to consider any specific fire safety measure in isolation of other measures present or recommended (i.e. “cherry picking” of specific measures in isolation will not necessarily achieve the requisite standard of fire safety).

- 72.9 It should be borne in mind that undue expense on fire precautions may make specialized housing unaffordable for some vulnerable residents. Equally, physical fire safety measures (e.g. compartmentation, fire detection and fire suppression) are likely to be more cost effective than solutions that involve an increase in staff numbers. On the other hand, upgrading of fire precautions should not be regarded (e.g. by commissioners of services) as justification for reduction in staff numbers (e.g. below the number reasonably required for evacuation of residents in supported housing). In timing upgrading work, it is often possible to minimize cost by delaying work that is not of an immediate priority to coincide with capital maintenance programmes or the occurrence of void accommodation; this can also avoid disruption for vulnerable residents.
- 72.10 Where specialized housing comprises a listed building of historic importance (e.g. most almshouses), special considerations apply. In such cases, the advice of specialists may be necessary, as listed building consent may be required for some fire safety measures recommended in this guide. A fire engineering solution may be necessary to achieve the required standard of fire safety.
- 72.11 Fire protection measures for the two distinct groups of specialized housing, namely sheltered or extra care housing and supported housing, are, in some cases, considered separately in this Part of the guide. However, in some premises, there may be overlap of recommendations.

### **73. Third party certification**

- 73.1 The performance of fire protection measures, including passive measures, such as fire stopping systems that prevent spread of fire, and active systems, such as fire detection, emergency lighting, sprinklers, etc, will depend on use of suitable products that are installed, and, normally, maintained, by competent firms.
- 73.2 In the case of many products, the Construction Products Regulations 2013 make compliance with harmonized European standards a legal requirement for the product to be placed on the market in the UK. The Regulations apply to products used in the construction industry, which includes most fire protection products. Under the Regulations, the manufacturer is required to make available a Declaration of Performance, verifying compliance with specified “essential characteristics” defined in the harmonized European standard. Verification of the accuracy of the Declaration of Performance by an independent certification body is mandatory under the Regulations and is signified by marking of the product with the “CE mark”.
- 73.3 However, strictly, the CE mark is not a mark of quality, but simply verifies the accuracy of the manufacturer’s Declaration of Performance, which does not necessarily apply to all essential characteristics. Third party certification schemes, operated by certification bodies that are, themselves, accredited by the United Kingdom Accreditation Service (UKAS) (or by an equivalent overseas national accreditation body) provide evidence of not only compliance of the product with the recognized standard, but also that the manufacturer has a suitable quality management system to ensure consistency in the quality of the product.

- 73.4 Third party certification schemes also exist for a number of fire protection products that fall outside the scope of the Construction Products Regulations. Accordingly, it is recommended that, where a third party certification scheme exists for **any** fire protection product used in specialized housing, the product should be certificated under the appropriate scheme.
- 73.5 However, the use of third party certificated products alone will not ensure the adequacy of performance of the product in a building. It is necessary for the product to be properly installed and, where appropriate, properly maintained. Again, third party certification schemes exist for firms who install and maintain many fire protection products and systems. Such schemes verify the quality of the firms' work by means of regular audits of the firms' quality system and on-site work.
- 73.6 Where third party certification schemes exist for firms that install or maintain fire protection products, the use of firms that are third party certificated by a UKAS-accredited certification body is strongly recommended. Advice on the availability of such schemes and appropriate certification bodies can be provided by relevant trade associations, such as the Association for Specialist Fire Protection, the Fire Industry Association and the British Automatic Fire Sprinkler Association.

#### 74. Limitations of this guidance

- 74.1 The wide variation in age, design and construction of sheltered and extra care blocks, together with the many different types of properties either converted for use as supported housing or designed and built for this purpose, is such that this guide can only cover the more common designs and more commonly employed fire safety measures found in these types of properties. Inevitably, there will be layouts and circumstances that will not be fully addressed by this guide. However, it is intended that use of the basic principles outlined below will enable a meaningful assessment to be made of the level of safety in these properties. Landlords, housing providers and other Responsible Persons should be aware that, in some circumstances, it is likely that help will be needed from suitable specialists.

#### 75. Methodology for using benchmarks

- 75.1 When carrying out a fire risk assessment, or otherwise reviewing fire safety design in specialized housing, it is important to compare the standard found in particular premises against *appropriate* benchmarks. Only then can judgements be made about the adequacy of the fire safety measures.
- 75.2 Initially, these benchmarks might be those that were in place when the property was built or converted, and not those that currently apply. Indeed, it is normally inappropriate retrospectively to upgrade existing premises to meet current benchmarks without justification on the basis of fire risk.
- 75.3 Nevertheless, there may be situations in which the original benchmarks of the day are far removed from what is acceptable today and, as a result, there may be an unacceptable risk.
- 75.4 The guidance in this Part is set out in such a way as to highlight:
- The benchmark standards recommended by current design codes and guides for the design of modern sheltered and extra care schemes and supported housing.

- The benchmark standards recommended by current codes and guides for the conversion of properties for use as supported housing.
- The most commonly found differences between newly built or converted properties and those designed to meet the standards of the day that applied when existing premises were built or converted.
- Possible solutions that might be suitable where the standard found in an existing building has not been maintained in line with the original design intent, or falls far short of the standard considered acceptable today.

75.5 The following diagram illustrates a flowchart that can be used when carrying out a fire risk assessment to compare the standard of fire safety found in particular premises with these benchmarks.

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- 75.6 The aim is to determine a *reasonable* approach to improving fire safety in premises where the existing fire safety measures have been found to be inadequate.
- 75.7 It must be recognized that it will not always be reasonably practicable to achieve solutions that conform to today's standards. The appropriate solution may simply be to restore what was originally there until such time as it can be upgraded through the normal process of refurbishment of the building. The objective is to establish whether the departures from current benchmarks create significant risk and, if they do, to determine a realistic solution that can be implemented within the constraints of an existing building.
- 75.8 An example that illustrates this approach is the standard of fire-resisting, self-closing doors found in existing premises. The original fire-resisting door may well have complied with the standard of the day, which did not require the door or frame to be fitted with intumescent strips or smoke seals, and the rising butt hinges fitted to the door were an acceptable self-closing device. As discussed later in this guide, the current benchmark standard is for fire-resisting doors to be effectively self-closing, be capable of providing 30 minutes' fire resistance, necessitating intumescent strips, and be fitted with smoke seals (FD30S doors).
- 75.9 In the situation described, the original door would not meet current benchmark standards, and rising butt hinges are no longer considered acceptable. In this situation, the lack of a positive action self-closing device, at the very least, is considered to create significant risk. If the door remains of good fit within its frame, intumescent strips and smoke seals could be considered to be something which could be fitted at a later date or during future refurbishment.
- 75.10 Similarly, this guide recommends that, in flats within sheltered and extra care housing, fire detectors should be provided throughout each flat. In many existing flats, there will be only a single smoke detector in the hallway; this would even satisfy guidance on compliance with current Building Regulations. The higher standard of fire detection recommended in this guide should be regarded as an ultimate objective for all sheltered and extra care housing, so should be incorporated in all new blocks, but upgrading of existing detection might need to be phased over a period of time (e.g. might be carried out during refurbishments or when existing detection is replaced), unless a person-centred fire risk assessment demonstrates that it is necessary for the protection of a highly vulnerable resident

## 76. **Compartmentation**

### **Compartmentation in Sheltered and Extra Care Housing**

- 76.1 Adequate compartmentation is a basic requirement in all blocks of sheltered and extra care flats. The standard of fire separation, whether between individual flats, between flats and the common parts, in common roof voids, or between the common parts and ancillary accommodation, such as refuse chutes and plant rooms, should be a key consideration when undertaking a fire risk assessment.
- 76.2 Current benchmark design guidance for new sheltered and extra care schemes recommends that the following should be constructed as compartment walls and floors:
- Every floor (unless it is within a multi-level flat);
  - Every wall separating a flat from any other part of the building;

- Every wall and floor enclosing a refuse storage room.

- 76.3 The current minimum level of fire resistance for compartment walls and floors is 60 minutes. Previous design standards for older, traditionally-built blocks of flats, now used as sheltered or extra care housing, some with timber floors, may have permitted a lower level of fire resistance. In practice, the materials that were used, and the method of construction adopted in some older blocks of flats, might not achieve 60 minutes' fire resistance. In older blocks in particular, it is extremely important, therefore, to determine the existing construction of floors and walls, and to make a professional judgement on the fire resistance this may achieve, in order to determine the viability of a 'stay put' policy.
- 76.4 The lines of compartmentation between flats located on the top floor of a building should, where there is a common roof void above, extend through the roof void in a continuous vertical plane to the underside of the roof (see Figure 4). This will ensure that the fire-resisting 'box' principle, extends into the common roof voids, to prevent fire spread between flats, and fire spread from a flat into other areas of the building, via the common roof void. It is not appropriate to complete the line of compartmentation within roof voids by installing cavity barriers above the compartment walls that separate flats, nor to treat the roof void simply as a concealed space within which cavity barriers are installed at regular intervals (other than, for example, where the void has been created by roofing over an original concrete flat roof).
- 76.5 The provision of fire-resisting ceilings within top floor flats (see Figure 5) would not normally provide an alternative means of achieving an equivalent standard of safety, as it would fail, for example, to address the possibility of a fire that starts within the roof void (see Figure 6) or that enters the roof void externally (e.g. as a result of flames projecting from a top storey window – see Figure 7). A fire-resisting ceiling will afford protection against spread of fire from a flat into the roof void, but not normally vice versa.
- 76.6 In existing blocks, if compartmentation is not present within roof voids, measures should be taken to provide fire-resisting barriers within the roof void in line with every compartment wall between flats. A simultaneous evacuation strategy would, in theory, constitute an alternative solution. However, this is not normally suitable in premises in which staff are not available at all times to manage, and assist with, evacuation, unless it is certain that residents would not need such assistance. Moreover, as the occupants of the flats are within their own private accommodation, simultaneous evacuation cannot be forced upon them, and, there cannot be enforcement action against the Responsible Person if residents fail to evacuate. Where the installation of fire-resisting barriers involves major structural work or major capital expenditure, it may be appropriate to develop a programme for completion of the work over a period of time, particularly if it is considered that other fire safety measures are of higher priority.



Figure 4. Compartmentation of roof voids

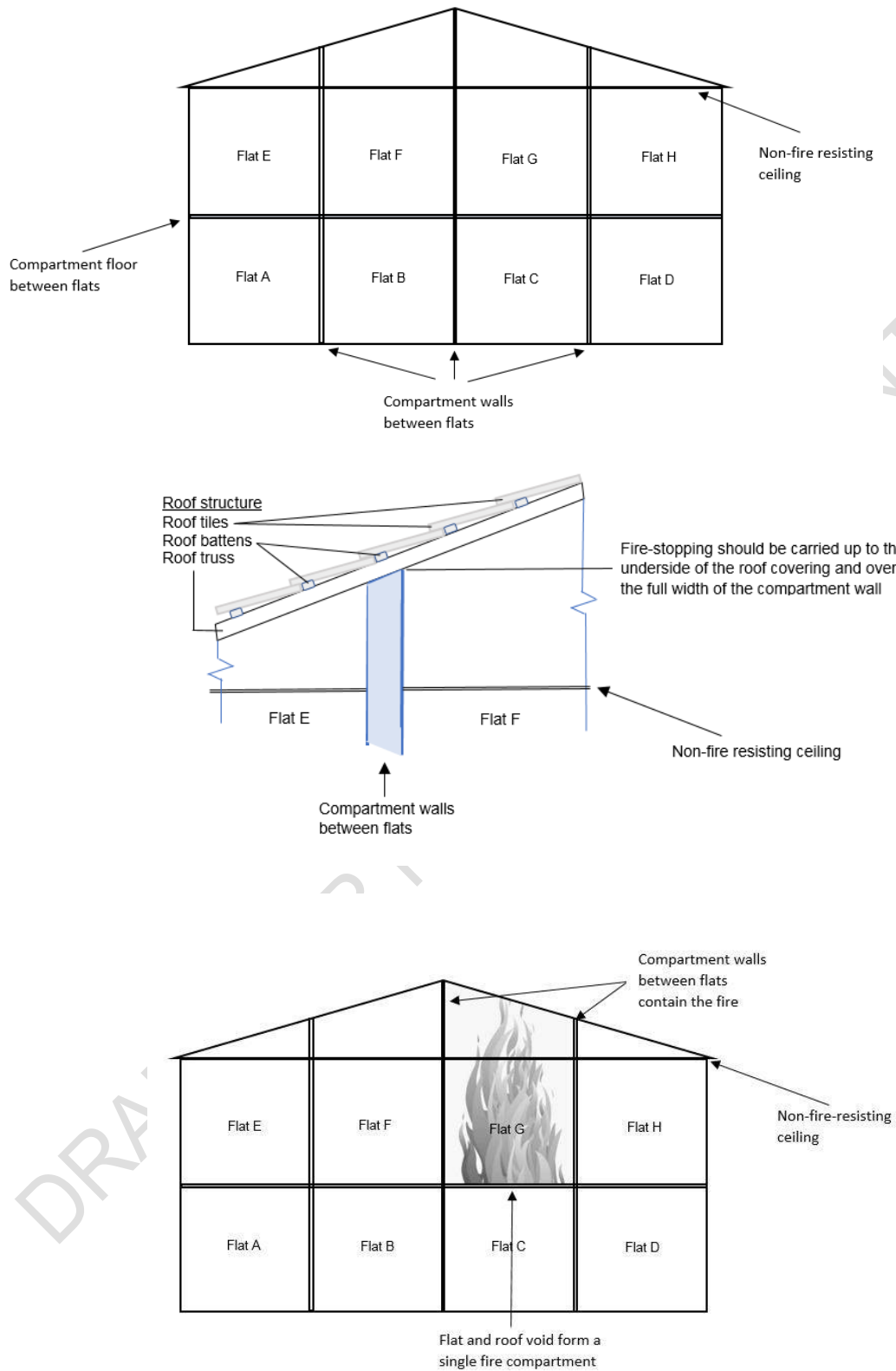


Figure 5. Fire that starts in roof void provides potential for downward fire spread

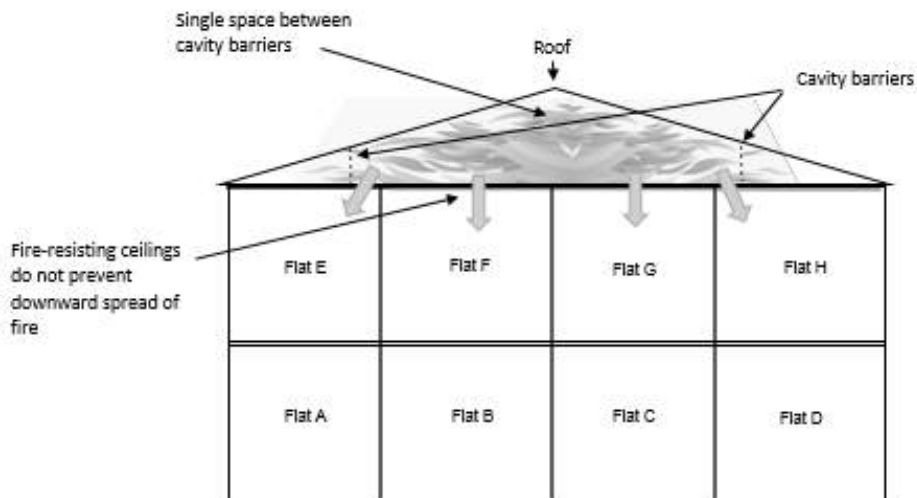


Figure 6. Fire that spreads into roof void provides potential for downward fire spread

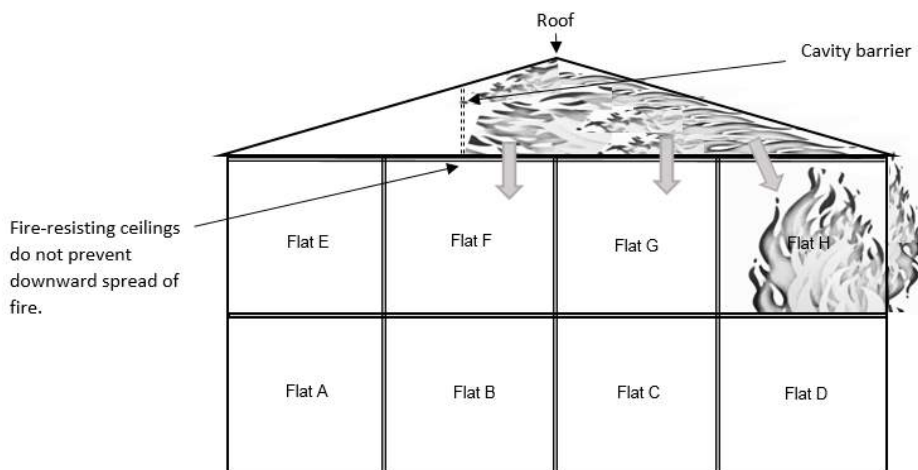
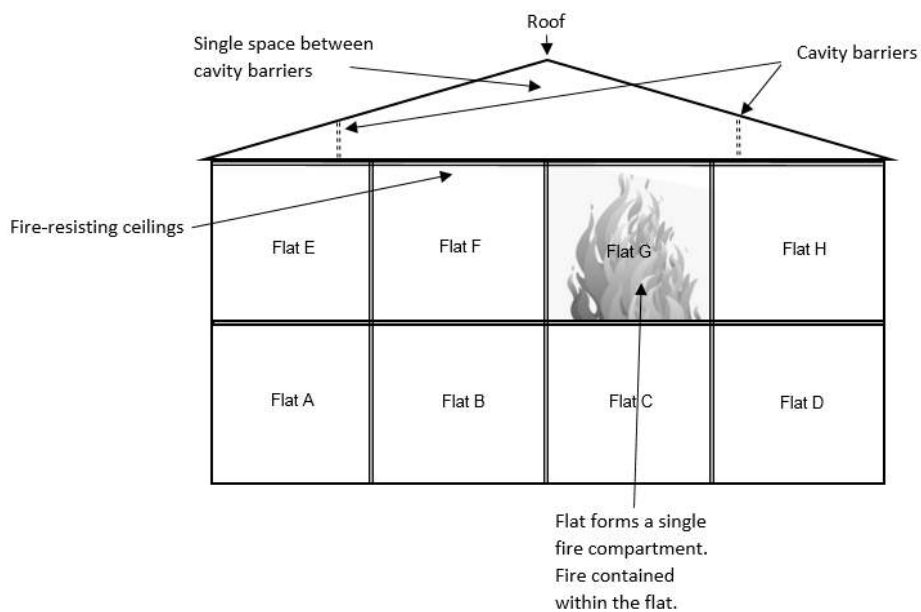


Figure 7. Fire-resisting ceilings and cavity barriers in roof void

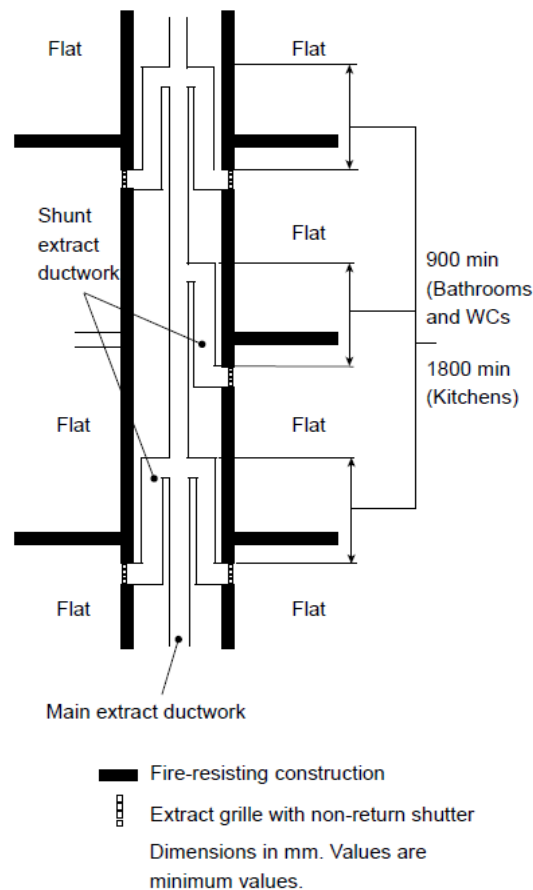


- 76.7 In certain situations, in existing blocks where 60 minutes' fire resistance is not met, or cannot readily be achieved by upgrading walls or floors, compensatory fire protection measures may need to be considered. These measures might include one or more of the following:
- provision of enhanced automatic fire detection; or
  - provision of an automatic water fire suppression system, such as a sprinkler or watermist system.
- 76.8 However, in all situations, it should be remembered that, fundamentally, any 'stay put' policy relies upon there being adequate compartmentation to restrict fire spread, to the extent that only the occupants of the flat of fire origin would need to evacuate, while the occupants of flats unaffected by a fire should be safe to remain in their flats, unless directed to evacuate by the fire and rescue service.

#### Existing condition of compartment walls and floors

- 76.9 It is vital that compartment floors and walls are in good condition and that there are no openings, whether intentional or unintentional, that would permit the uncontrolled spread of fire and smoke. The potential for fire to spread through any service ducts and risers, ventilation ducts and refuse chutes, and by means of openings around gas, electricity, water, drainage and telecommunications services, should be considered.
- 76.10 Obvious openings between floors, and in walls between flats or ancillary accommodation (e.g. plant rooms) and the common parts, should be considered. Particular attention should be paid to service ducts or risers and any common ventilation systems.
- 76.11 Within flats, consideration will need to be given to the adequacy of fire stopping around any openings in walls and floors for services, such as gas, water, electricity, telecommunications and drainage. These may be present where such services enter from the common parts, or pass between flats. In most cases, the extent of any openings and the extent of fire stopping can only be ascertained through intrusive inspections and the opening up of panels in kitchens, bathrooms and other areas. This would apply when Types 2 and 4 fire risk assessments are carried out.
- 76.12 Small bore pipes, typically less than 40mm in diameter, are not normally considered to be of concern. Larger pipes, especially if made of a combustible material, could, in a fire, give rise to an opening that will allow significant fire and smoke spread. Proprietary fire seals, including externally-mounted collars, or fire-resisting enclosures, are used in new buildings and could be used to address this problem in older blocks. However, the difficulties of retrofitting such seals in an occupied block of flats may mean that it will only be practicable to undertake this on a long term basis as and when flats become vacant.
- 76.13 In addition, some designs of blocks of flats incorporate common ventilation ducts to provide extract from bathrooms and, less commonly, kitchens. These ducts may well travel the full height of the building, serving more than one flat and terminating at roof level.
- 76.14 It has been traditional for many years for the common extract from bathrooms to incorporate shunt ducts, which reduce the likelihood of fire and smoke spread between flats (see Figure 2). Some earlier designs used the same arrangement for kitchen extract, although this was not a preferred method.

Figure 9. Shunt duct arrangements



76.15 However, old blocks of flats now used as sheltered housing might not incorporate shunt ducts and have no adequate means of preventing fire and smoke spread between flats via ventilation ducts. The absence of measures to prevent fire and smoke spread via common ventilation systems is so far removed from what is acceptable today that action will be necessary to reduce the risk it poses.

76.16 In existing flats, it will rarely be practicable to upgrade ventilation systems to meet current benchmark standards and retrospectively introduce mechanical fire and smoke dampers into the ducts. However, one way of reducing the potential for fire spread between flats would be to fit intumescent fire dampers to the vents into the ducts. Although this would not restrict the spread of smoke in the early stages of a fire, it would prevent spread of flames and hot gases. This is a reasonable approach for bathrooms, but is less satisfactory for kitchens, where there is the potential for a serious fire in the room in which the vent is located. In these cases, the ideal solution would be to rearrange the ventilation to discharge directly to outside and not via a common duct.

76.17 Again, the difficulties of access to retrofit intumescent fire dampers in an occupied block of sheltered housing, particularly where there are leasehold flats, need to be considered.

### External fire spread

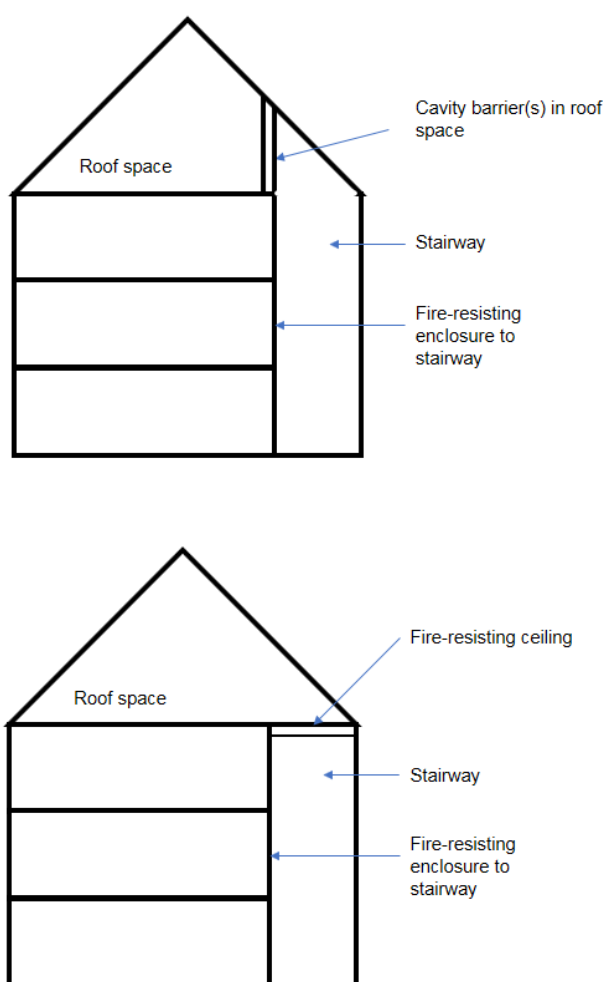
- 76.18 The external façades of blocks of sheltered and extra care flats should not provide potential for extensive fire spread. When assessing existing blocks, particular attention should be given to any rain screen or other external cladding system that has been applied and to façades that have been replaced.
- 76.19 The use of combustible cladding materials and extensive cavities can present a risk, particularly in some taller or complex blocks. Restrictions are normally applied to the nature of such materials and, in particular, their surface spread of flame characteristics. Cavity barriers are also required in some circumstances. Assistance from specialists may be required to determine if the external surfaces of walls are satisfactory and if there is adequate provision of cavity barriers

### **Compartmentation in Supported Housing**

- 76.20 If supported housing is provided in purpose-built blocks of flats, the principles discussed above for sheltered and extra care housing in respect of compartmentation would apply, as would a 'stay put' policy.
- 76.21 However, the majority of supported housing comprises properties similar in design to domestic houses; indeed, a significant number were originally single-family dwellings that have been subsequently converted to provide supported housing. The evacuation strategy will be simultaneous evacuation of all occupants in the event of a fire, so the need for compartmentation will be limited.
- 76.22 The requirement for compartment walls or floors in domestic dwelling houses within current design guides is limited to walls separating semi-detached houses, or houses in a terrace (party walls), and walls and floors separating an internal garage from the remainder of the dwelling. Where required, the period of fire resistance of compartment walls and floors would be 30 minutes where the height of the top floor above ground is not more than 5m; a period of 60 minutes is necessary where the height of the top floor is over 5m.
- 76.23 However, for compliance with current building regulations, all floors need to provide fire resistance. In terms of integrity, the fire resistance of floors in a two storey dwelling house need only be 15 minutes, while this is increased to 30 minutes in a three storey house, and to 60 minutes in houses of more than three storeys.
- 76.24 Old lath and plaster ceilings cannot be depended upon to provide 30 minutes' fire resistance, but, if the level of fire detection recommended in this guide is provided, such construction should be regarded as adequate in supported housing of no more than three storeys (excluding any basement storey). In existing supported housing of more than three storeys, floor/ceiling construction should be upgraded if necessary to achieve a fire resistance of at least 30 minutes; this is not necessary if the premises are protected by a sprinkler or watermist system.
- 76.25 In carrying out fire risk assessments of supported housing, ceilings should be examined visually to ensure that they are not damaged and that there are no obvious breaches of integrity that would materially reduce the fire resistance or permit passage of smoke from one floor to the floor above.

- 76.26 Cavity barriers will not normally be necessary to sub-divide roof voids in supported housing that is similar in nature to a domestic dwelling. However, cavity barriers should be provided above the enclosures to a stairway in properties of three storeys or more (excluding any basement storey). Alternatively, in a house of three storeys, it would be acceptable to either install smoke detection within the roof space, or to install a ceiling that would afford resistance to a fire in either the stairway or the roof void (e.g. comprising fire-resisting board within both the void and the stairway. See Figure 3). If supported housing is provided in a terraced property, it should be confirmed that there is adequate compartmentation to prevent fire spread from an adjoining property.

Figure 10 Protection of stairway within roof space



## 77. Means of escape in sheltered and extra care housing

- 77.1 Sheltered and extra care housing varies in respect of size, design, use and complexity. Schemes can vary from a collection of self-contained bungalows (which are outside the scope of this guide) to blocks of flats, with no additional facilities and no staff on site, and to larger more complex buildings with communal facilities and staff providing on-site support.
- 77.2 Although some schemes still have an on-site scheme manager, many rely on on-call systems, through social (“Telecare”) alarm systems, to provide support to residents. In these cases, there may be only limited day time cover, and, other

than in extra care schemes, no staff presence during the night to provide any assistance to the residents in the event of a fire.

- 77.3 Sheltered and extra care schemes are designed and constructed with compartment walls and floors and protected escape routes. The principles of a 'stay put' policy, universally adopted in modern purpose-built blocks of flats, apply equally to sheltered and extra care blocks.
- 77.4 The one common aspect of all of these types of properties, regardless of the level of communal facilities provided, or whether or not there are staff on site, is that the premises are designed to provide active older people with the opportunity to continue to live independently in their own self-contained flat.
- 77.5 It has, traditionally, been assumed that residents will be able to escape unaided in the event of a fire. Escape route design, in past and current guidance documents, places no reliance on external rescue by the fire and rescue service.
- 77.6 However, the changing profile of residents living in sheltered and extra care premises, and their potential vulnerability, should be taken into account. Although this, in many ways, is no different from older persons living in their own home, it does present a particular challenge due to the number of floors and layout of the buildings, and the lack of any management support, particularly during the night. Additional fire safety measures should, where necessary, be incorporated to take account of, for example, residents' reduced mobility or cognitive capacity to evacuate safely in the event of a fire in their own home or from common areas.
- 77.7 The general principles for the design of means of escape in sheltered and extra care blocks are similar to those applicable to new blocks of general needs flats, and are based on the following assumptions:
- If corridors, escape routes and common parts are kept clear of significant fire hazards, the most likely place for a fire to occur will be within a flat;
  - The flats will have a high degree of compartmentation and, therefore, there will be a low probability of fire spread beyond the flat of origin;
  - If fires do occur in the common parts, the materials and construction will restrict the development and spread of fire.
- 77.8 The vast majority of fires in sheltered and extra care housing are then most likely to occur in individual flats. Initially, such a fire will only present a threat to those within the flat of origin. Therefore, design of means of escape is initially concerned with the safe escape of residents from their own flat to a place of relative or ultimate safety.
- 77.9 Sheltered and extra care blocks are designed to prevent the spread of fire beyond the flat of origin. However, it must also be assumed there is a small chance that, at some stage, fire might spread to affect other areas of the building, including the common parts and the communal escape routes. Therefore, the design of means of escape includes the provision and protection of internal escape routes to allow residents to use these routes safely to reach a place of safety outside the building.
- 77.10 The means of escape in sheltered and extra care blocks can be considered to comprise two distinct, but obviously linked, components:

1. means of escape from an individual flat; and
2. means of escape from the exit of each flat, using the common horizontal and vertical routes in a building, to a final exit leading to a place of ultimate safety outside.

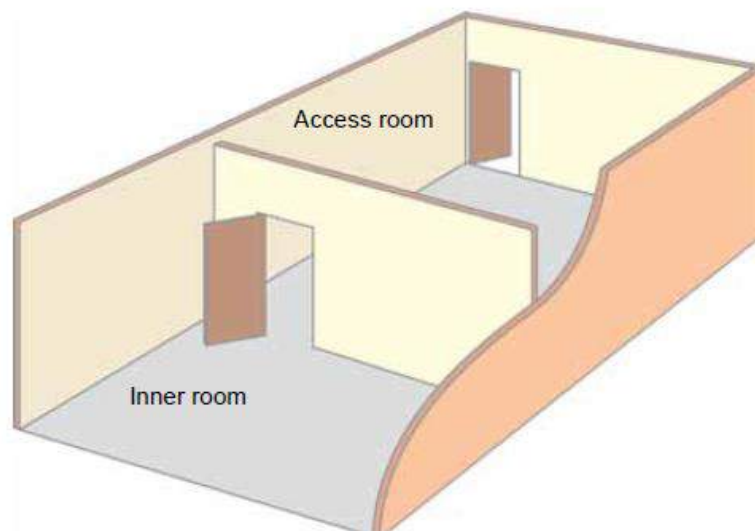
### **Means of escape within individual flats**

- 77.11 The provision of means of escape from flats is dependent on a number of factors, including the height and location of the flat. Irrespective of the design, size or layout, the important principle to consider is that a fire anywhere within a flat should not prevent the occupants of that flat from escaping, unaided, to an exit from the flat.
- 77.12 In general, flats in sheltered and extra care schemes are normally laid out on a single level, and it would be rare to find flats on two levels with an internal stairway. The means of escape from flats located on the ground floor with their own separate entrance doors, entered direct from open air and, potentially, with additional exit doors, should, under normal circumstances, present few difficulties in respect of means of escape.
- 77.13 In general needs flats with no floor more than 4.5m above ground level, a recognized alternative means of escape would be by means of a suitably sized escape window. However, given the age, mobility profile and the consequent vulnerable nature of most residents of sheltered and extra care housing, this is not an alternative that could realistically be considered in sheltered and extra care housing. Even if it were considered appropriate in individual situations, over time, the capacity for residents to use escape windows would diminish with advancing years. Therefore, the use of escape windows is not considered further in this guide.

#### Inner rooms

- 77.14 An inner room is a room from which escape is only possible by passing through another room (the “access room”). These situations can commonly occur in some larger flats and those with open plan layouts. In addition, there is a possibility that residents might remove internal doors or partitions, thereby creating inner room situations (see Figure 11).

Figure 11. Inner room situation





- 77.15 In specialized housing, habitable rooms, such as lounges and bedrooms, should not be inner rooms. Inner rooms should be restricted to kitchens, utility rooms, dressing rooms, bathrooms and WCs.
- 77.16 To avoid the occurrence of inner rooms, all habitable rooms should either open directly onto a hallway or should be provided with an alternative exit. A suitable alternative exit would be as follows:
- in the case of basement or ground floor flats, a final exit door leading directly to open air, with suitable access to ground level beyond the building;
  - a door to an access corridor, access lobby or common balcony, from where escape to ground level beyond the building is possible;
  - a door to a common stairway;
  - a door to an external stairway; or
  - a door to a second room, from which escape is possible via one of the above means.
- 77.17 Any exit door should be fit for purpose and the residents of the flat should be able to escape, unaided, using the door to reach a place of safety
- 77.18 For general needs housing, a further alternative, recognized in the recommendations of BS 9991 for open plan flats, in which, for example, a bedroom with no alternative means of escape may form an inner room accessed via a lounge, is for there to be an automatic fire suppression system. However, this should not normally be regarded as an alternative for flats in sheltered and extra care housing.

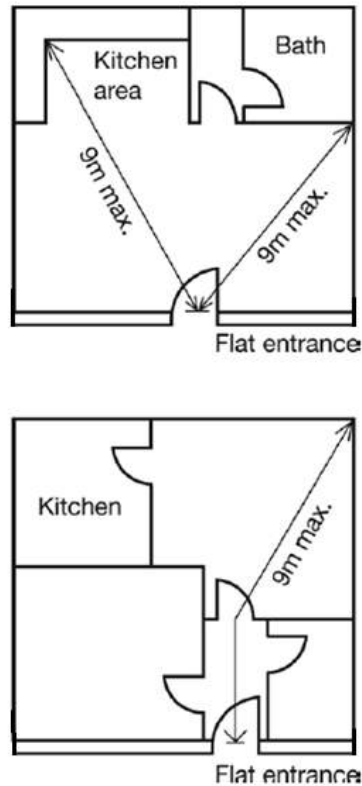
#### Internal means of escape

- 77.19 Current benchmark design guidance for new blocks of sheltered and extra care blocks of flats recommends three acceptable approaches to providing adequate means of escape from flats where all rooms and the entrance door are on a single level. These are:
- Limit the travel distance within the flat.
  - Provide a protected entrance hall.
  - Provide an alternative exit.

#### Flats with limited travel distance

- 77.20 This is generally the approach taken in most sheltered and extra care flats to avoid the possible difficulty of older residents opening heavy internal fire-resisting doors (particularly any doors fitted with self-closing devices) as part of everyday living.
- 77.21 The travel distance from any point in a habitable room to the flat entrance door is limited, so reducing the chance that residents could become trapped in the event of a fire (see Figure 12 below).

Figure 12. Flat with limited travel distance



77.22 Current design guidance for flats with limited travel distance is as follows:

- The travel distance from any point in a habitable room to the flat entrance door should be limited to 9m.
- Cooking facilities should be remote from the entrance door and should not prejudice the escape route from any point in the flat.

77.23 For existing flats, the acceptability of departures from the current benchmarks above should take account of the individual circumstances in the flat, including the age, mobility and vulnerability of the residents, both now and in later years. Slightly increased travel distances of, say, an additional 3m might not require any additional measures. However, other approaches, or additional compensatory measures, are likely to be necessary if travel distances in excess of this are involved.

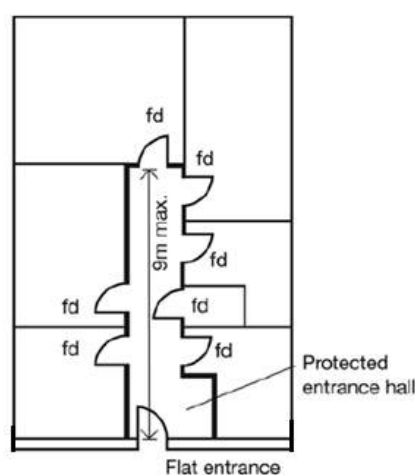
77.24 Compensatory measures might include Category LD1 fire detection, fire-resisting doors to the kitchen and lounge or an automatic fire suppression system.

77.25 Current guidance in BS 9991 for new general needs flats allows the travel distance to be extended to 20m if an automatic water fire suppression system (AWFSS) and Category LD1 fire detection is provided. However, travel distances of this magnitude are inappropriate for vulnerable residents in sheltered and extra care housing.

#### Flats with protected entrance halls

77.26 Where there is a protected entrance hall, the escape route within the flat should remain relatively smoke free in the early stages of a fire in a room but, as an additional safeguard, the length of travel in the entrance hall is limited (see Figure 13 below).

Figure 13. Flat with a protected entrance hall



**Note:** Bathrooms need not have fire doors providing the bathroom is separated by fire-resisting construction from the adjacent rooms.

**Key**  
fd Fire door  
— 30 minute fire-resisting construction around entrance hall

77.27 Current design guidance for flats with protected entrance halls is as follows:

- All habitable rooms should open onto the entrance hall.
- The travel distance between a door to a habitable room and the entrance door to the flat should be limited to 9m.
- The entrance hall should be a protected route, enclosed in 30 minutes' fire-resisting construction, in which doors are of at least 20 minutes' fire resistance (FD 20 doors).

77.28 For existing flats, slightly increased travel distances of, say, an additional 3m might not require any additional measures. However, if travel distances in excess of this are involved, other approaches, or compensatory measures, are likely to be necessary. For example, enhanced levels of automatic detection or an automatic fire suppression system could be considered as compensatory measures to allow extended travel distances from 9m to, possibly, 15m.

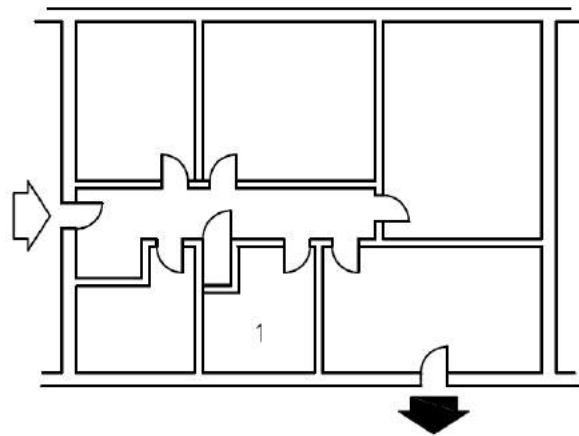
- 77.29 In older blocks of flats, the fire resistance of partitions and doors may not meet current standards. Whether there is a need to replace or upgrade existing fire-resisting doors or partitions, will depend on the overall risk. This may not be necessary where the travel distance is less than around 9m and automatic detection is provided in accordance with the recommendations of BS 5839-6 for a Category LD2 system. The existence of, or fitting of, an automatic sprinkler or watermist system would also provide flexibility to accept levels of fire resistance that do not meet current standards.
- 77.30 The fitting of self-closing devices to internal fire-resisting doors opening onto protected entrance halls was a normal requirement of previous benchmark standards. In some cases, in older blocks, these would have been rising butt hinges, which, over the years, have often become ineffective.
- 77.31 The fitting of self-closing devices to internal fire-resisting doors in flats is no longer recommended in the latest guidance to the Building Regulations, or in BS 9991. This, in part, is in recognition of the fact that residents remove these devices or hold doors open, which may well occur in sheltered and extra care flats because of the difficulties residents experience in opening the doors. The emphasis today is on educating residents to close these doors when people are sleeping.
- 77.32 This then raises the question as to whether or not internal fire-resisting doors that were originally required to have self-closing devices should have these devices reinstated to meet the original standard of the day.
- 77.33 In general, it would seem inappropriate to require doors to be self-closing, providing the other current benchmark standards for means of escape can be achieved. However, as a further compensating feature for excessive travel distance, consideration might be given to fitting positive action, self-closing devices to high hazard rooms (e.g. the kitchen and lounge), particularly where the latter are closer to the entrance door than the bedrooms, but, again, the problems experienced by older and frail residents negotiating self-closing doors should be taken into account before this is considered.
- 77.34 It is not uncommon to find, in some circumstances, that residents have either changed internal fire doors to non-fire resisting doors or have removed doors and, in some cases, partitions, altogether, thus creating inner rooms. This may be more common in leasehold flats where access and control by landlords and housing providers is limited. Reinstating the fire doors and partitions may be necessary not only to protect the internal entrance hall, but, in some premises, to protect the common means of escape where there is dependence on the protection of the internal hallway to safeguard the communal escape routes.

Flats with an alternative exit

77.35 Current design guidance for flats with alternative exits is as follows:

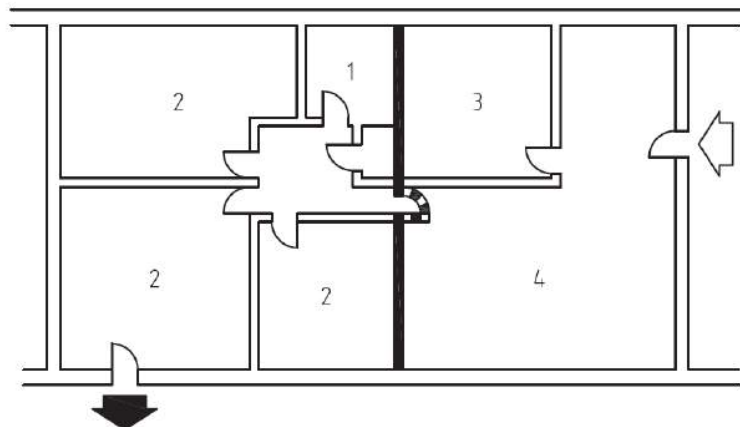
1. Either all habitable rooms should be directly accessible from an internal hallway and have an alternative exit remote from the entrance door (see Figure 14a).

Figure 14a. Flats where all habitable rooms have direct access to an entrance hall



2. Or, alternatively, all bedrooms should have access to an internal lobby that is separated from the living area (lounge and kitchen) with 30 minutes' fire-resisting construction; an alternative exit is then provided from the bedroom area (see Figure 14b).

Figure 14b. Flats where all habitable rooms do not have direct access to an entrance hall



Key

- 1 Bathroom
- 2 Bedroom
- 3 Kitchen
- 4 Living area



Entrance to dwelling



Alternative exit from dwelling



30 min fire-resisting construction



FD 30 fire door

77.36 For an arrangement that relies on alternative exits, each alternative exit should lead to a final exit or common stairway by way of:

- a door to a common corridor, lobby or escape balcony; or
- an internal private stair leading to a common corridor, lobby or escape balcony; or
- a door onto a common stairway;
- a door onto an external stairway.

77.37 Escape via linking balconies, or pass doors between neighbouring flats, was a commonly accepted alternative escape arrangement under previous benchmark standards and can be found in some existing (mostly general needs) blocks of flats. However, these arrangements are no longer recommended for the design of new flats. In most of these situations, the linking balcony, and pass doors, were shared by the residents of two adjoining flats. In some other situations, more than two flats shared the linking balcony but, in all cases, there was a need to gain access into a neighbour's flat to reach an alternative exit route. The difficulties of ensuring access into, and exit from, an adjoining flat to reach an alternative exit are obvious and cannot be relied upon with any degree of certainty to be available at all times.

77.38 These arrangements are not commonly found in sheltered and extra care blocks, for which they are not considered suitable. In an unusual situation where these alternative exits exist, possibly in existing blocks of flats adapted for use as sheltered or extra care housing, the provision of other more suitable principles for means of escape should be adopted, such as limited travel distance or a protected entrance hallway; alternatively, compensatory measures, such as enhanced automatic fire detection or an automatic fire suppression system, will need to be considered.

#### Security locks

77.39 Any security locks fitted to flat entrance doors and alternative exit doors from flats should be easily operable by the residents from the inside without the use of a removable key.

77.40 As flat entrance doors are required to be self-closing, there is a risk that any self-locking security devices fitted to the doors could accidentally lock residents outside of their own flats. As well as being a general nuisance for residents who may leave their keys inside the flat, there is also a risk during a fire if a resident leaves their flat and a dependent family member remains inside the flat. The danger in these circumstances is that residents may resort to removing or disconnecting the self-closing device. Flat entrance doors should be fitted with a suitable lock that can only be locked on the outside by the use of a key operated deadlock, but that can still be opened from the inside by a handle or lever without the use of a key.

#### **Escape routes within the common parts**

77.41 Escape routes from a flat to ultimate safety outside the building, or to a place of relative safety, such as a ground floor lounge from which an exit leads directly to open air, rely on using the common parts. There are two elements to this:

1. Horizontal escape from the flat entrance door to a stairway or final exit; and
2. Vertical escape via a stairway leading to a final exit or place of relative safety.

77.42 Adequate levels of fire protection need to be provided to the communal escape routes so that smoke and heat from a fire in a flat or ancillary room will not prejudice use of the corridors, lobbies, balconies or stairways. This will include provisions to ensure that the common escape routes remain relatively smoke free and safe to use in the event of a fire.

77.43 In general, in existing sheltered or extra care blocks of flats, to access the flat entrance doors, it is necessary to use either an internal corridor or lobby off a common stairway, or an external balcony off a common stairway, though the latter is not common in the design of sheltered or extra care blocks. The provisions required to safeguard the escape routes in each of these scenarios will vary.

#### Escape from flats with internal corridor or lobby approach

77.44 Current benchmark design guidance recommends two methods of ensuring that the horizontal escape routes can be safely used in the event of a fire. These are:

- Provide protected corridors and lobbies leading to a stairway. The principles adopted in this approach include limiting the travel distance from a flat entrance door to a protected stairway, enclosing the escape routes in fire-resisting construction and providing smoke control to ventilate corridors/lobbies and stairways; or
- Provide independent alternative escape routes from each flat, either by way of a common internal corridor at another level or by an external common balcony, in both cases leading to a stairway. However, this is not commonly adopted in the design of sheltered or extra care schemes and is not considered in any further detail in this guide. Details on the design of premises with independent alternative escape routes can be found in Approved Document B and BS 9991.

77.45 The current benchmark design guidance for new blocks of flats, utilizing protected corridors and lobbies, including sheltered and extra care blocks, is detailed below and follows guidance set out in both Approved Document B and BS 9991.

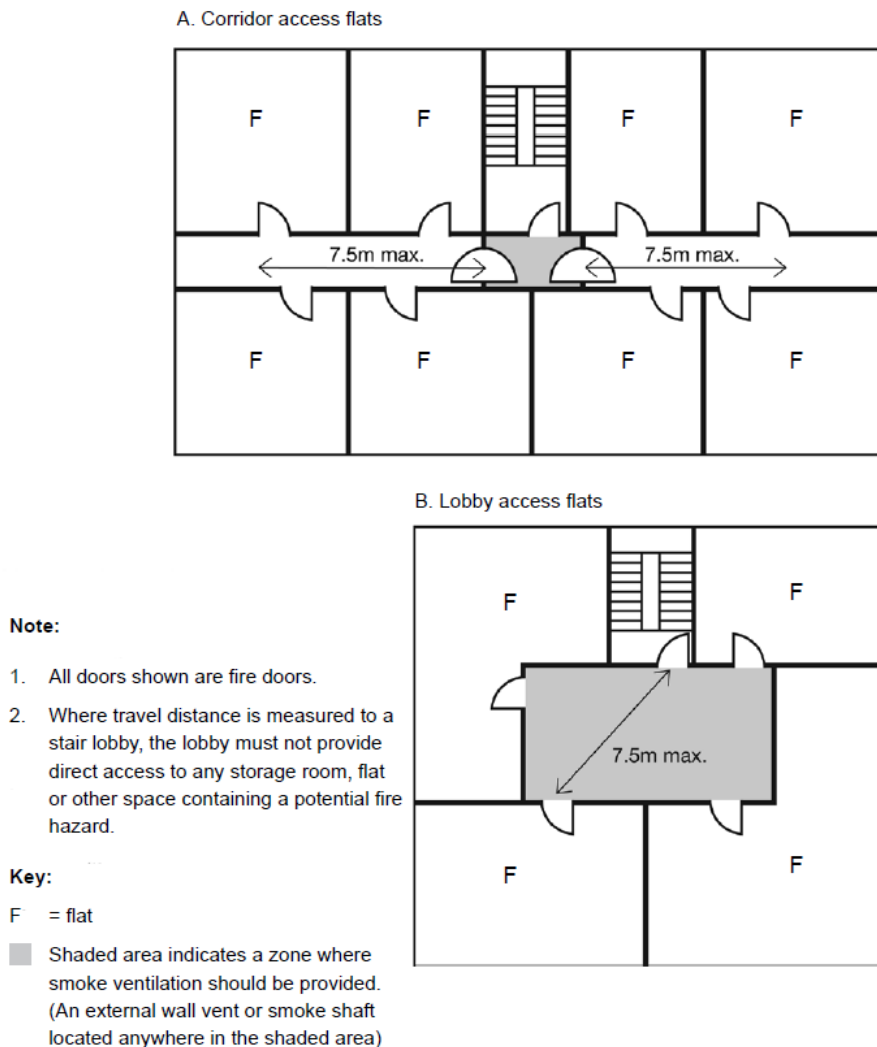
#### Common escape routes in flats served by a single escape stairway (see Figure 15)

77.46 The following applies:

- Every flat should be separated from the common escape stairway by a protected corridor or lobby.
- The distance of travel between the flat entrance door and the door to a lobby or stairway should be limited to 7.5m.
- Smoke control should be provided by natural or mechanical ventilation in the lobby or corridor adjacent to the stairway.

- The smoke vents on the fire floor and the vent at the head of the stairway should be operated automatically by means of smoke detectors in the common access corridor or lobby to the flats.

Figure 15. Flats served by a single escape stairway



#### Small single stairway buildings (see Figure 16)

77.47 Where a single stairway building is small, relaxations in the provisions apply, providing:

- The top floor of the building is no more than 11m above ground level.
- There are no more than three storeys above the ground level storey.
- The stairway does not connect to a covered car park.
- The stairway does not serve ancillary accommodation, unless the ancillary accommodation is separated from the stairway by a protected lobby or corridor



with a permanent natural vent or ventilation by a mechanical smoke control system.

- There is an openable vent provided on each floor level for use by the fire and rescue service, or alternatively, there is a remotely operated vent at the head of the stairway.

77.48 Where the above conditions apply, the following fire safety measures should be followed;

- Every flat is separated from the common escape stairway by a protected corridor or lobby.
- The distance of travel from flat entrance doors to the stairway should be limited to 4.5m. If smoke control in the form of an AOV or mechanical ventilation is provided in the lobby, the travel distance can be increased to 7.5m (see Figure 9a).
- In single stairway buildings with only two flats per floor, the lobby between the stairway and the flats is not essential, providing the flats have protected entrance halls. In these circumstances, the vent at the head of the stairway should be an AOV operated by smoke detectors. The potential problem in this scenario is the difficulties that may be experienced by older or frail residents negotiating the fire-resisting internal doors provided to the protected entrance hall (see Figure 9b).

Figure 16a. Small single-stair building

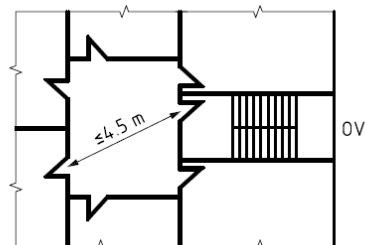
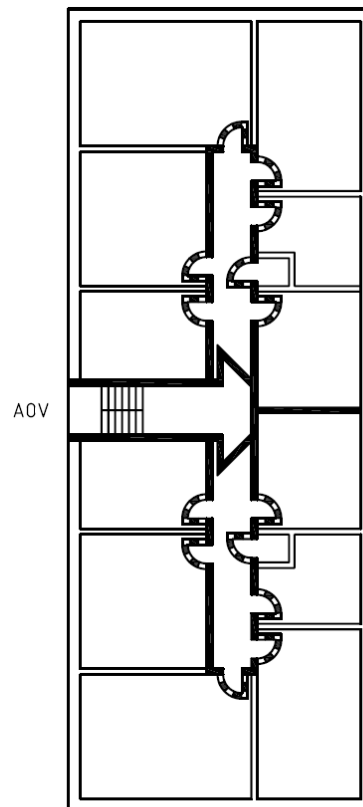


Figure 16b. Small building of not more than two dwellings per storey and protected internal entrance halls



Key

AOV Automatic opening vent (1.0 m<sup>2</sup> minimum)

OV Openable vent for fire and rescue service use (1.0 m<sup>2</sup> minimum)



FD 30 fire door



Self-closing FD 305 fire door (double swing)



Self-closing FD 305 fire door



Fire-resisting construction

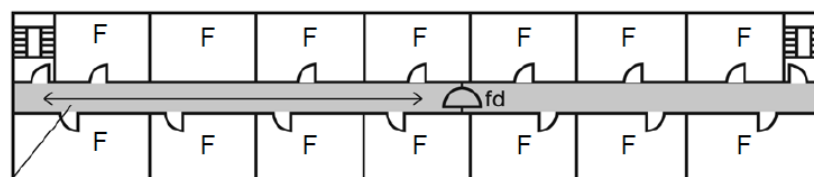
## Common escape routes in flats served by more than one escape stairway

77.49 The following applies:

- Every flat should be separated from each common escape stairway by a protected corridor or lobby.
- The travel distance from a flat entrance door to the door to the nearest stairway or lobby should be limited to 30m.
- A common corridor that connects two or more escape stairways should be subdivided by a self-closing, fire-resisting door to ensure smoke will not affect access to more than one stairway. This door can be omitted if the maximum travel distance from a flat entrance door to a stairway or lobby is not more than 15m.
- However, if, in specialized housing, residents are incapable of independent evacuation, BS 9991 recommends that no person should need to travel more than 7.5m from a flat entrance door along a corridor or lobby to reach a fire door to a protected stairway, protected lobby to the stairway or a cross-corridor fire door. In this guide, it is recommended that this principle is adopted in sheltered housing and, more especially, in extra care housing.
- Any dead-end section of an access corridor should be separated from the rest of the corridor by a self-closing, fire-resisting door. The single direction of travel in the dead-end section of corridor should be limited to 7.5m.
- Smoke control by natural or mechanical ventilation should be provided in the lobby or the corridor adjacent to the stairway to protect the stairway.
- An openable vent should be provided at the head of the stairway.

Figure 17. Flats served by more than one escape stairway

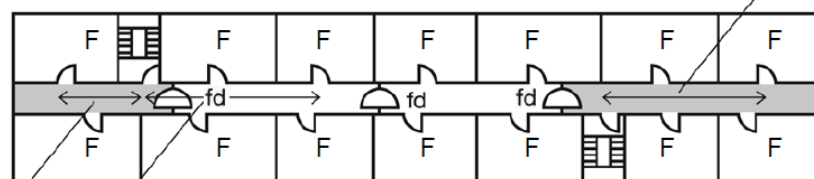
A. Corridor access without dead ends



30m max.

B. Corridor access with dead ends

The central door may be omitted if maximum travel distance is not more than 15m



7.5m max. 30m max.

**Key:**

F = flat

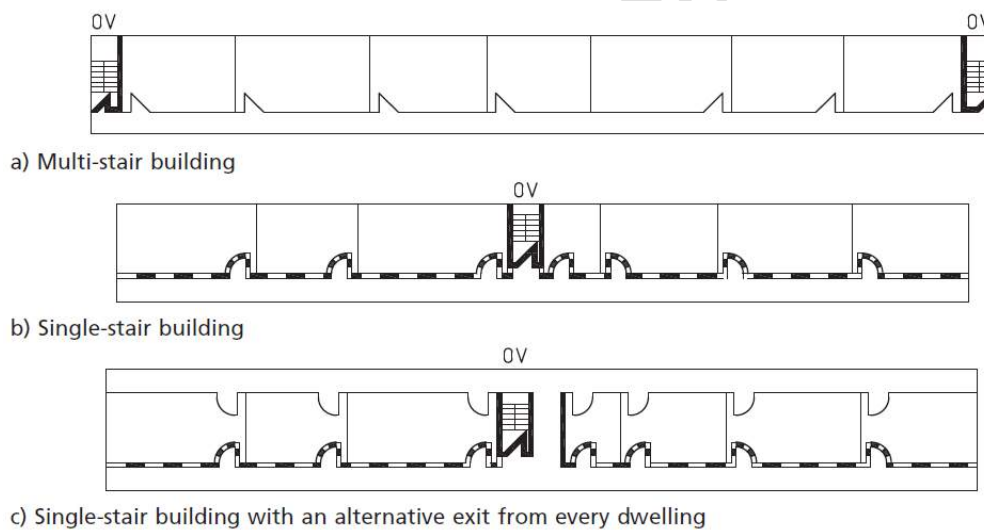
fd = fire door

Shaded area indicates a zone where smoke ventilation should be provided.

External open balcony or deck access approach leading to a stairway (see Figure 18)

- 77.50 Some sheltered schemes may have open access balconies or decks, which are the normal means of access to the dwellings and form means of escape that lead to, in many cases, open escape stairways. In most situations, these schemes are usually of limited height (e.g. only two floors), and have a limited number of flats.
- 77.51 In general, there is little risk of external balconies or decks becoming smoke logged in the event of a fire and, consequently, in general needs blocks, there are few restrictions placed on travel distance. Although most sheltered schemes will generally be small and, therefore, travel distance will be naturally limited, where this is not the case, the ability of residents to escape unaided along external balconies or decks should be considered.
- 77.52 The benchmark design guidance for new blocks of flats with open balcony or deck access is detailed below.

Figure 18. Common escape routes from flats with external balcony or deck access approach



**Key**

OV Openable vent for fire and rescue service use from the top storey (1.0 m<sup>2</sup> minimum)

— Fire-resisting construction

— Fire-resisting construction up to a height of 1.1 m above deck level

— Self-closing FD 30 fire door

— Self-closing FD 30S fire door

All doors with glazing that breach the 1.1 m high fire-resisting separation should be self-closing FD 30 fire doors with appropriate fire-resisting glass.

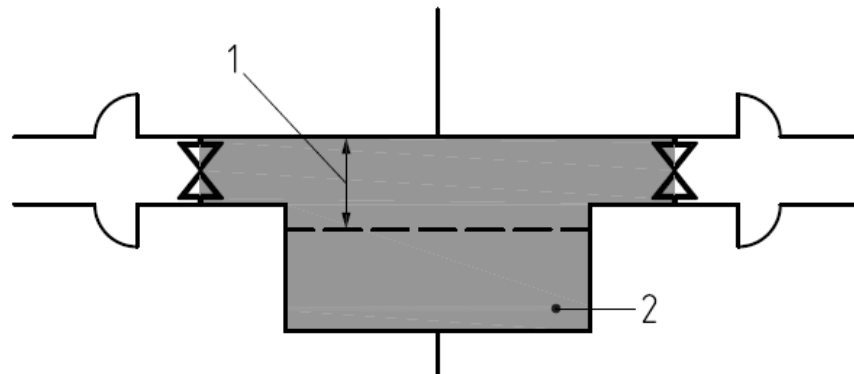
- 77.53 If the width of the access balconies or deck is less than 2m, it can be assumed that there is little risk of horizontal smoke spread along the balcony or deck from a fire in a flat that would prevent residents from using the escape route. There is, however, some potential for smoke spread along balconies or decks wider than 2m. In these situations, downstands may need to be considered to restrict the lateral spread of smoke along the balcony or deck.
- 77.54 Ideally, there should be no additional fire hazards, such as stores or other ancillary rooms, located off the balcony or deck.
- 77.55 There are no limitations on travel distance in the common escape routes for flats with external balcony or deck approach. However, the distances specified for fire-fighting access will apply; all areas of a flat should be within 45m of the fire-fighting vehicle access point, or within 45m of a landing valve of a dry rising main (60m when the landing valve is in a fire-fighting shaft).
- 77.56 In blocks of flats where there is alternative escape available from each flat entrance door, along the open balcony or deck, to two or more escape stairways, the separating walls between the flats and the access balcony/deck, and the flat entrance doors, are not required to be fire resisting.
- 77.57 In flats with a single direction of escape to a single escape stairway, the separating walls between the flats and the balcony/deck should be fire resisting up to a height of 1.1m from balcony/deck level. The flat entrance doors in these situations should be self-closing, fire-resisting doors and the current benchmark standard is FD30. In many existing blocks, the original flat entrance doors would have been FD20 doors and these doors will generally continue to be acceptable, depending on their condition.
- 77.58 This will allow residents, if they wish, to pass a fire in an adjoining flat to reach the stairway. However, as mentioned earlier, the disabilities and mobility of residents should be considered when assessing their ability to use the balconies or decks in the event of a fire. This is particularly relevant for residents who require mobility aids, such as wheelchairs and mobility scooters, where the 1.1m fire-resisting barrier, may not allow some residents to safely pass beneath open windows or unprotected areas.
- 77.59 Some blocks, originally designed with open balconies and stairways, have, over the years, been either fully or partially enclosed under schemes to reduce energy loss or to weather protect access walkways. In these circumstances, the enclosure of balconies and stairways has led to situations where the flat entrance doors opening onto the now enclosed escape route are not fire resisting or self-closing, and there may also be windows from the flats opening onto the escape routes.
- 77.60 In these situations, either the enclosures to the balconies and stairways need to be removed, or the escape routes need to be protected in accordance with the recommendations detailed above for protected corridors or stairways.

### **Combustible materials within communal escape routes**

- 77.61 Corridors and lobbies should be kept clear of any significant fire risks and obstructions. This matter is discussed in more detail in Part F.

77.62 However, furniture may be permitted in common corridors where there is on-site management control. Furniture should, ideally, be located in sections of corridor, between self-closing, fire-resisting doors, into which flats do not open (see Figure 19 below). Any such furniture should not be readily susceptible to ignition. Upholstered furniture should satisfy the recommendations of BS 7176 for medium hazard situations.


Figure 19. Furniture in common corridors




**Key**

1 Width of corridor maintained free from furniture (1.0 m min)

2 Area containing furniture

 Self-closing FD30S fire door (double swing)

 Furnished area (10 m<sup>2</sup> max.)

**Stairways**

77.63 Stairways need to be enclosed in fire-resisting construction to minimize the risk of fire and smoke entering the stairways while they are being used for escape. Again, the current benchmark standard is that stairway doors should be FD30S doors and be fitted with self-closing devices.

77.64 Stairways should lead directly to a final exit, or to a protected route leading to a final exit. The stairways should not contain any significant fire hazards and should, ideally, not contain anything other than lifts or protected electrical meter cupboards. Ideally, gas installations should not be located within protected stairways.

77.65 Where more than one stairway provides alternative means of escape, the stairways should be separated from each other by fire-resisting construction, such that a fire will not affect the use of more than one stairway. Escape stairs should not therefore terminate in the same enclosure.

77.66 It is unlikely that the width of stairways will be a significant issue with regard to their capacity for use for escape. The number of people expected to use a stairway in the event of a fire will be limited and widths of 1,100mm would normally be considered adequate for means of escape; in most cases, this would also cater for

fire and rescue service access and for the possible assisted evacuation of vulnerable residents. Final exits from stairways should, ideally, be the same width as the stairways themselves, or larger, depending on the overall exit capacity.

- 77.67 Many older and disabled residents find it difficult to use stairs in the event of a fire. In larger, more complex premises, particularly those with extensive communal facilities on upper floors, additional measures may need to be considered. This may include the provision of temporary safe refuge areas for mobility impaired residents within a protected stairway or lobby.

#### External escape stairways

- 77.68 The use of external stairways as part of the means of escape in specialized housing should be avoided as far as practicable, owing to the age and vulnerability of the residents who may need to use them. Current benchmark design guidance for new blocks of flats recognizes that external escape stairways may, in exceptional circumstances, be provided for small buildings. However, external escape stairways should not be incorporated in the design for new specialized housing unless the stairway is intended only for use by staff.
- 77.69 In existing multi-stairway buildings it might be acceptable to use external escape stairways as part of the alternative means of escape from a storey, providing there is at least one internal escape stairway available on each storey. Where external escape stairways form part of the means of escape, the stairways should be adequately weather protected to ensure the stairway remains safe to use in all weather conditions, particularly during the winter months. It should also be ensured that any residents who are expected to evacuate without assistance are physically capable of using the external stairways to reach a place of safety unaided.
- 77.70 External escape stairways should be protected from a fire in the building by means of fire-resisting construction, including any glazing, and fire-resisting self-closing fire doors.

#### Lifts

- 77.71 The use of evacuation lifts, or, in some circumstances, normal passenger lifts, may also be considered. Specially designed evacuation lifts are safe for residents to use for vertical escape during a fire. Normal passenger lifts can sometimes be upgraded to evacuation lift standards (e.g. at the time of lift refurbishment); the major aspect of design is the provision of dual power supplies, which can be created by running two independent, fire-resisting circuits via diverse routes. Evacuation lifts should comply with the recommendations of BS 9999. A modern fire-fighting lift, designed for use by the fire and rescue service, is suitable as an evacuation lift without modification.
- 77.72 In sheltered and extra care housing, the use of normal passenger lifts for evacuation, under the supervision of staff or the fire and rescue service, might be considered. However, this needs to be based on a careful risk assessment that takes into account the likelihood of failure of power supplies to the lift, and entry of smoke into the lift shaft, during a fire. Nevertheless, if vertical evacuation of residents is essential, use of a passenger lift, the power supplies of which cannot be affected by the fire, might be less hazardous to residents with severe mobility impairment than evacuating them down a stairway.

### **Final exits and exit capacity**

- 77.73 The number, location and capacity of final exit doors should be adequate for the maximum occupant of the premises and be provided to meet travel distances. The number and capacity of exits will, in the majority of sheltered and extra care schemes, present few problems, as occupancy numbers will be limited, but all final exits need to be sufficiently wide to allow passage of wheelchairs.
- 77.74 However, occupancy capacity of communal meeting rooms, and rooms used for functions and events, should be assessed independently and maximum numbers based on the number and width of exits available.
- 77.75 Final exits should be sited such that they are clear of any risk of fire and smoke and will allow people to exit the building safely. Final exits should, ideally, have a level threshold leading to level ground to allow people to make their way clear of the building to a place of safety.
- 77.76 Final exit routes should not present an obstruction to residents who use mobility aids or wheelchairs or mobility scooters. Grass, gravel or uneven paving should be avoided. If level access is not available, suitable steps with level landings or ramps should be provided. Ramps that form part of the escape route should meet the provisions in Approved Document M 'Access to and use of buildings'.
- 77.77 The surfaces of external exit routes should not present a trip or slip hazard and need to be regularly inspected to avoid, for example, a build-up of vegetation or algae and, during winter periods, build-up of snow.
- 77.78 Final exits should be apparent to any person who may need to use them, particularly within stairways that serve storeys above and below ground.
- 77.79 All final exit doors from the building should be easily openable from the inside without the use of a key or code by residents and visitors. A simple action turn handle or lever that can be easily operated by older or frail residents is preferred. Locks operated by thumb turns are unlikely to be suitable, as they can be difficult for frail residents, who may lack manual dexterity, to operate them; for exits that are normally secured and used only as a means of escape, a panic bar or push pad is more suitable. Any exits fitted with electronic locking mechanisms should comply with the recommendations of BS 7273-4.

### **Self-closing devices for fire-resisting doors**

- 77.80 It is essential that fire-resisting flat entrance doors, and doors provided to protect common corridors, lobbies and stairways, should be fitted with suitable positive action self-closing devices. The self-closing device should be capable of closing the door in its frame from any angle and overcoming the resistance of any latch. Rising butt hinges are not considered suitable as they are unreliable in the effective closure of a door. New self-closing devices should conform to BS EN 1154. Some housing providers adopt a policy of fitting self-closing devices on the outside face of flat entrance doors, so that their continued presence can be readily monitored.
- 77.81 Many older and disabled residents find it difficult to negotiate self-closing fire doors during everyday use of the building. Inappropriate self-closing devices can make fire doors, including flat entrance doors, almost impassable for people in

wheelchairs, those who use walking frames or residents who are frail or may suffer from arthritis.

- 77.82 The forces associated with door closers should be limited to the minimum necessary to close the door reliably and effectively. Vulnerable residents may find it difficult to open doors where forces in excess of between 20 N and 30 N are required to open the doors against the resistance of the closer. In some instances, it is the type of door latch fitted, and the force required to overcome the resistance of the latch, that presents the problem. In addition to the type of self-closer fitted, consideration should also, therefore, be given to the type of door furniture and latching mechanisms fitted.
- 77.83 Where fire-resisting, self-closing doors, particularly those in common corridors and circulation spaces, present an obstacle to normal movement, consideration should be given to the fitting of hold-open devices or swing-free devices.
- 77.84 Hold-open devices are designed to hold a door open against the action of the self-closing device. Swing-free devices allow a door to stand open at any angle in normal use. Both types of device automatically result in closure of the door in the event of fire. New hold-open devices and swing-free closers should conform to BS EN 1155.
- 77.85 The fitting of any hold-open devices or swing-free door closers in sheltered and extra care housing can only be permitted if there is a suitable fire detection and alarm system fitted throughout the areas where these devices are used. Recommendations for the fire detection are given in BS 7273-4.
- 77.86 Hold-open devices and swing-free closers should release to allow the door to close under the action of the self-closing device on operation of the fire alarm system and the failure of the power supply. Other than in the case of doors to protected stairways, acoustically-actuated hold-open devices are acceptable. BS 7273-4 provides recommendations for the design, installation, commissioning and maintenance of door release mechanisms.
- 77.87 Consideration can also be given to the fitting of powered doors, or powered door opening devices to existing doors, in common areas and, potentially, individual flats, suitable for use by residents who require the use of wheelchairs or mobility scooters. Typically, these doors would be fitted with controls located on each side of the door, to power the door open automatically; the doors are designed to close automatically after a pre-set time has elapsed. It should be ensured that doors will fail safe to the closed position in the event of failure of the power and are capable of manual operation. Any in-built delay to closure of these doors should be restricted to a maximum of 25 seconds to restrict smoke spread.

### **Surface finishes in common escape routes**

- 77.88 The surface finishes of walls and ceilings in escape corridors, lobbies and stairways can significantly affect the rate of fire spread and contribute to the development of a fire. It is, therefore, important to control the fire performance of linings within the common parts of sheltered and extra care housing.
- 77.89 Combustible surface finishes should not be permitted in escape corridors, lobbies or stairways. Products and materials that will afford a Class 0 performance are



normally necessary for use in the common areas. This is a classification defined in Approved Document B.

- 77.90 In general, where a wall or ceiling is constructed of non-combustible materials, such as masonry, brick, concrete, or plasterboard, or has plaster finishes, the fire performance characteristics will be acceptable in the common escape routes.
- 77.91 However, in existing blocks, it is often difficult to identify the classification of existing surface finishes, particularly if the materials used are not obvious. Even those finishes normally considered acceptable may have been subject to many instances of over-painting. This can affect their performance when exposed to fire.
- 77.92 The build-up of paint layers can give rise to rapid fire spread. In these situations, where the risk is considered significant, action should be taken to remove or treat the paint. Proprietary products are available that can be used to treat the surfaces in order to provide a protective outer coating that will reduce the extent of fire spread. Treatments are also available for timber linings.
- 77.93 False ceilings can also sometimes be found in the common corridors and lobbies. The materials used to construct the ceilings and the surface finishes should preferably be non-combustible or, at least, Class 0. There should be little, or no, additional fire hazards within the false ceilings. On this basis, there may not be a need for cavity barriers to sub-divide the voids, other than above cross-corridor fire doors, but this would need to be considered in each circumstance.

## **78. Departures from current benchmark standards for communal means of escape in sheltered and extra care housing**

- 78.1 The following paragraphs provide guidance on situations in which, in existing sheltered and extra care schemes, provisions for means of escape might vary from the current benchmark standards for new buildings, as set out in Section 77. In these circumstances, alternative or compensatory measures may be appropriate. The alternative or compensatory measures discussed in the following paragraphs are not exhaustive and there may well be other approaches that would achieve a satisfactory standard of fire safety.
- 78.2 As discussed in earlier paragraphs of this guide, it is not normally appropriate to upgrade fire precautions retrospectively, without justification based on risk, simply because standards have evolved or changed. The demographic change in the population of sheltered and extra care housing, and the higher number of residents with reduced mobility, reduced sensory capability and cognitive difficulties, will, in some cases, be justification in itself to upgrade fire precautions. However, any recommendations to upgrade fire precautions in existing premises need to be justified in the fire risk assessment; there is a need to establish that the cost and effort required is proportionate to the risk.

### **Travel distance in common parts**

- 78.3 In sheltered and extra care schemes, the distance of travel from a flat entrance door to a door to a protected stairway, protected lobby or door sub-dividing a corridor should be limited to allow residents to escape unaided, as it cannot be assumed that a scheme manager or other person(s) will be available to render assistance.

- 78.4 For compliance with the Building Regulations, Approved Document B limits travel in blocks of flats to 7.5m where escape is in a single direction or 30m if there is escape in two directions; in the latter case, corridors of greater than 15m in length are sub-divided by cross-corridor fire doors.
- 78.5 For specialized housing, BS 9991 recommends that, regardless of whether there is escape in a single direction, or in two directions, if residents are incapable of independent evacuation, no person should need to travel more than 7.5m from their flat entrance door along a corridor or lobby before reaching a fire door (accessing either a protected stairway enclosure or another section of protected corridor). For the purpose of this guide, it is recommended that this principle is adopted in sheltered and extra care housing.
- 78.6 Distances slightly in excess of this (e.g. up to 10m), might be considered satisfactory in most situations, depending on the vulnerability of residents. However, in these circumstances, there should be no combustible materials within the corridors, and the fire protection of the corridors should meet current design standards.
- 78.7 It is acknowledged that, where, in the common corridors, there is escape in two directions, longer sections of undivided corridors exist within many sheltered and extra care housing schemes, such that the recommendations of Paragraphs 78.5 - 78.6 are not satisfied; indeed, such a situation would be deemed to satisfy the current Building Regulations. However, it is recommended that the 7.5m maximum distance of travel be adopted in the design of all new sheltered and extra care housing and refurbishment of existing blocks. Adoption of this principle should also be regarded as an ultimate objective for all existing sheltered housing.
- 78.8 If flats are protected by an automatic sprinkler or watermist system, the likelihood that significant amounts of smoke from a fire in flat will spread into corridors is greatly reduced. In this case, travel distance in corridors could be extended to 15m.

#### **Fire-resisting doors**

- 78.9 Fire-resisting doors, particularly flat entrance doors, but also doors to protected lobbies and stairways, are an important element in the protection of the common means of escape. The current benchmark standard is that fire-resisting doors should be to a FD30S standard and be fitted with self-closing devices. Doors to certain high risk ancillary rooms, such as boiler rooms, should be FD60S doors. Doors to these ancillary rooms need not be fitted with self-closing devices if the premises are well managed and the doors are kept locked shut when not in use.
- 78.10 Any new or replacement doors should satisfy the above standards. If any existing doors are not, where appropriate, fitted with self-closing devices (e.g. flat entrance doors, cross-corridor doors, doors to protected lobbies and doors to protected stairways), or such doors are not effectively self-closing, effective self-closing action should be implemented as a matter of priority.
- 78.11 A modern FD30S fire-resisting door has intumescent strips and smoke seals fitted along its side and top edges (or within the frame in these locations). Letterboxes, if fitted, would be of a type incorporating intumescent materials to protect the opening. The doorset, comprising the door leaf, frame and door hardware would be certificated in accordance with current British or European standards.

- 78.12 Old fire-resisting doors, particularly those installed before the 1980s, may not be fitted with either intumescent strips or smoke seals. These doors were, typically, 44mm thick and closed onto 25mm door stops, which is one way of recognizing them as doors that were designed as fire-resisting doors. The vast majority of such doors would have met the test for 30 minutes' fire resistance at the time they were manufactured or installed. As a result of changes in the test standards, they would no longer do so if tested in accordance with current test standards.
- 78.13 Nevertheless, many such doors have performed satisfactorily in real fires, and they are likely to continue to do so, providing they remain in good condition and are of good fit in their frames. They might achieve a fire resistance of around 20 minutes if tested in accordance with current test standards. For the purpose of this guide they may be regarded as a 'Notional FD30' door (see also glossary), in that they may be accepted in many circumstances in which the current benchmark standard for new buildings would require an FD30S door, as is accepted practice in existing general needs blocks of flats.
- 78.14 Historically, when fire-resisting doors were first fitted with intumescent strips, so enabling the full period of 30 minutes' fire resistance to be achieved, many doors were not fitted with smoke seals. While such (FD30) doors may achieve 30 minutes' fire resistance, they will not resist the passage of relatively cool smoke to the same degree as current 30 minutes' fire-resisting doors fitted with smoke seals (FD30S doors). Again, they may, nevertheless, continue to be acceptable in many circumstances, as is accepted practice in general needs blocks of flats.
- 78.15 Regardless of the above, if evacuation of residents beyond a flat in which fire occurs becomes necessary (e.g. on the instructions of the fire and rescue service), it can be anticipated that residents in sheltered and extra care housing will take longer to negotiate common corridors than most typical residents of general needs blocks of flats. In consideration of the acceptability of notional FD30 doors, this needs to be taken into account, along with factors such as the level of other fire protection measures, the length of corridors that need be negotiated before reaching a place of relative safety and fire and rescue attendance times. The decision as to whether to replace or upgrade existing doors should be based on the findings of the fire risk assessment for the building.
- 78.16 However, upgrading or replacing existing fire doors to meet current standards, simply because they are not fitted with intumescent strips and smoke seals, should not be made a generic recommendation, applicable to all existing premises. Existing doors are likely to be acceptable in all cases where
- flats are protected by automatic fire suppression systems; or
  - all flats are protected by Category LD1 fire detection systems that are monitored, so that, in the event of fire, early summoning of the fire and rescue service will always occur; this may not be an acceptable alternative in rural areas in which long fire and rescue service attendance time is anticipated.
- 78.17 In other cases, it may still be reasonable to accept notional FD30 doors in smaller schemes, provided doors are in sound condition and are of good fit in their frames. However, in many larger blocks, it might be more appropriate to upgrade existing flat entrance doors and doors to high risk ancillary accommodation (but not

necessarily other fire-resisting doors) with intumescent strips and smoke seals, albeit as part of a long term programme (e.g. for refurbishment).

- 78.18 Similarly, upgrading existing letterboxes in existing flat entrance doors to meet current standards is not always necessary; this will be dependent on the location of the letterbox in the door, the location of the flat within the block, and the construction of the letterbox (e.g. upgrading is unlikely to be essential if the letter box is located in the middle or lower part of the door and has a spring-loaded metal flap on the inside and outside of the letterbox).
- 78.19 Even where it is regarded as necessary to upgrade the fire resistance of old, existing fire doors, retrofitting of intumescent strips and smoke seals will normally be sufficient. An upgraded door cannot be guaranteed to achieve the same performance as a new FD30S doorset, for which there is an appropriate test certificate, and it can sometimes prove just as economical to replace the door. However, replacement, rather than upgrading, of notional FD30 doors with new, certificated doorsets is only likely to be necessary where the potential risk from fire is particularly serious (e.g. as a result of extreme vulnerability of the majority of residents or as a result of shortcomings in other fire precautions).
- 78.20 Existing fire-resisting doors need to be a good fit within their frames with a maximum of 4mm gaps between the sides and tops of a door and the door frame. The gaps at the base of the door should be limited to 6mm. The doors and frames should be in good condition, undamaged, and have no openings in them where locks or security fastenings have been removed. The fire resistance of frames should not be compromised where cables pass through the frames into flats. Any existing doors that fail to meet these recommendations should receive attention.

## **79. Smoke control in sheltered and extra care housing**

- 79.1 Both current design guidance and previous standards for new blocks of sheltered and extra care flats recommend that measures be provided to ensure that escape routes remain free of smoke. However, different approaches have been employed in order to achieve this, and, indeed, the philosophy behind smoke control design has changed over the years.
- 79.2 The current design guidance is based on using smoke control to protect the common escape stairways. While this might afford some protection to the corridors and other horizontal routes, the design intention is to prevent smoke from entering a stairway.
- 79.3 The simplest component of smoke control is the containment of smoke by fire-resisting doors. The subdivision of corridors and the separation of dead end sections of corridors, using fire-resisting, self-closing doors, is an accepted part of the design of means of escape in sheltered and extra care housing. This will ensure that corridors not directly affected by fire and smoke will remain relatively smoke free, and will ensure that smoke will not affect access to more than one stairway or, in the case of dead end corridors, affect access to the nearest stairway.
- 79.4 The provision of additional cross-corridor doors in sheltered and extra care housing to reduce travel distance and, consequently, the length of corridors that may be affected by smoke, recognizes that older and less mobile residents will take longer to reach a place of safety (see paragraphs 77.49 and 78.5).

- 79.5 Current design standards for new buildings consider three main methods of smoke control, namely natural ventilation, mechanical ventilation and pressurization.

### **Natural Ventilation**

- 79.6 Natural ventilation, either direct to open air or via smoke shafts that rise up through the building, involves the provision of vents or windows, usually of minimum free area of 1.5m<sup>2</sup>. These can be permanently open vents (PVs), as recommended in some previous design guides, manually openable vents (OVs) or automatically opening vents (AOVs), the latter operated by smoke detectors provided specifically for this purpose. The method of operation employed is dependent on the design of the block.
- 79.7 Current guidance states that vents in lobbies or corridors adjoining single stairways should be operated automatically (AOVs). In multiple stairway blocks, manually openable vents will suffice.
- 79.8 Protected stairways also need means to ventilate any smoke that may enter the stairway during evacuation or fire-fighting, and allow a route for air to reach ventilated lobbies and corridors. A vent of at least 1m<sup>2</sup> needs to be provided at the head of the stairway for this purpose.
- 79.9 Current guidance states that, in blocks of flats with more than one escape stairway, this vent can be opened manually, but, in blocks of flats with a single stairway, it is recommended that the vent is operated automatically (an AOV).

### **Mechanical Ventilation**

- 79.10 Mechanical ventilation systems can achieve the same objective in protecting a stairway and, in some respects, more effectively, given that they are less influenced by natural wind effects. A mechanical system should achieve conditions in the lobby, corridor and stairway that are equivalent to, or better than, would be achieved with a natural system.
- 79.11 Mechanical ventilation is recommended in corridors with extended travel distances and in designs where cross-corridor doors and openable or automatic vents have been omitted.
- 79.12 Systems should be designed to limit pressure differentials so that door opening forces are limited. This is particularly relevant where older and frail residents may have difficulty in opening doors.

### **Pressure Differential Systems**

- 79.13 A pressure differential system can be either a pressurization or a depressurization system to prevent smoke from a fire entering the protected escape routes. A depressurization system decreases the air pressure within the area of a fire so that it is lower than the air pressure in the adjoining escape routes. In contrast, a pressurization system increases the air pressure in the escape routes to create a higher pressure thereby preventing smoke from entering the escape route.
- 79.14 For premises provided with pressurization systems, it is necessary to determine not only where the fresh air supply comes into the building but also where air and smoke will leave the building and the paths they will follow. Pressurization systems

installed in new buildings should conform to the recommendations of BS EN 12101-6.

### **Review of existing smoke control arrangements**

- 79.15 Although there have been changes in smoke control design, it is still appropriate, when assessing an existing building's smoke control arrangements, to review these in the light of the standards that were in place at the time the block was built. The approach of, at least, ensuring that what is there continues to work as originally intended must be the starting point before considering the need to improve the arrangements. However, an example of where the previous benchmark design guidance is far removed from what is acceptable today is in relation to smoke dispersal arrangements, in which the objective was to clear smoke from common escape routes by natural cross ventilation.
- 79.16 Smoke dispersal arrangements are very dependent on wind and temperature conditions for their effectiveness. They have consequently proved to be very unreliable for a number of reasons, and are no longer seen as an accepted method of smoke control. In existing blocks of sheltered and extra care blocks with smoke dispersal, action should be taken to review both the smoke control arrangements and the existing travel distance, which, may well be significantly in excess of current benchmark standards. The advice of specialists is likely to be necessary to advise on alternative, or compensatory, measures.

## **80. Means of escape in supported housing**

### **General**

- 80.1 Most properties used for supported housing are akin to single-family dwelling houses, albeit that most residents have their own rooms and share common facilities. Indeed, in some situations, the very essence of supported living will be for individuals to live in an environment that, as close as possible, resembles a normal domestic house.
- 80.2 A significant number of premises will, in fact, be single-family dwellings that have been converted or extended to provide supported living. Accordingly, fire protection requirements will generally follow the principles adopted for single-family dwellings, houses in multiple occupation or similar small sleeping risk premises, based on a simultaneous evacuation of all residents in the event of fire.
- 80.3 Residents in supported housing will generally receive a level of care or support to allow them to live, to some degree, independently, commonly with 24-hour staff comprising at least one member of staff sleeping on site. Where this is not necessary, care or support packages may be provided only during day time periods.
- 80.4 Therefore, the assessment of means of escape in supported housing starts with an assessment of the residents and their ability to evacuate in the event of a fire. Some residents may, for example, have mobility impairments; others may have cognitive or mental health issues, which may affect their ability to respond to alarms. Consultation with care staff will be required to determine the vulnerability of residents and the type and level of fire protection required in each premises. Where residents may need to use wheelchairs to evacuate the premises, it needs to be ensured that all fire exits are wide enough for a wheelchair to pass through.

Where the vulnerability of residents results in very high risk, measures such as additional fire detection, upgrading of fire doors and, in some cases, automatic fire suppression may be necessary.

- 80.5 However, it is normally important to maintain a homely, non-institutional environment to avoid adversely affecting the quality of life of the individual residents. Where it is anticipated that residents will be capable of responding appropriately and quickly in the event of fire, or the sounding of the fire alarm system, means of escape need not be significantly different from means of escape in a single-family, or shared, house (e.g. a house shared by a number of students). In such cases, if the level of fire detection recommended in this guide is provided (see Section 83), the premises should be regarded as low risk.

### Means of escape - single storey ground floor supported housing

- 80.6 In single storey ground floor premises (bungalows or ground floor flats), the means of escape requirements will be limited and relatively simple to achieve, and will commonly be similar to those found in single-family dwellings. There will be few requirements for means of escape other than ensuring that habitable rooms should either have a final exit door, or, alternatively, a door that opens onto a hallway, which, itself, leads directly to a final exit. Doors to each room should be of sound construction and fit closely into their frames, but need not be fire resisting, unless prolonged evacuation times are anticipated.

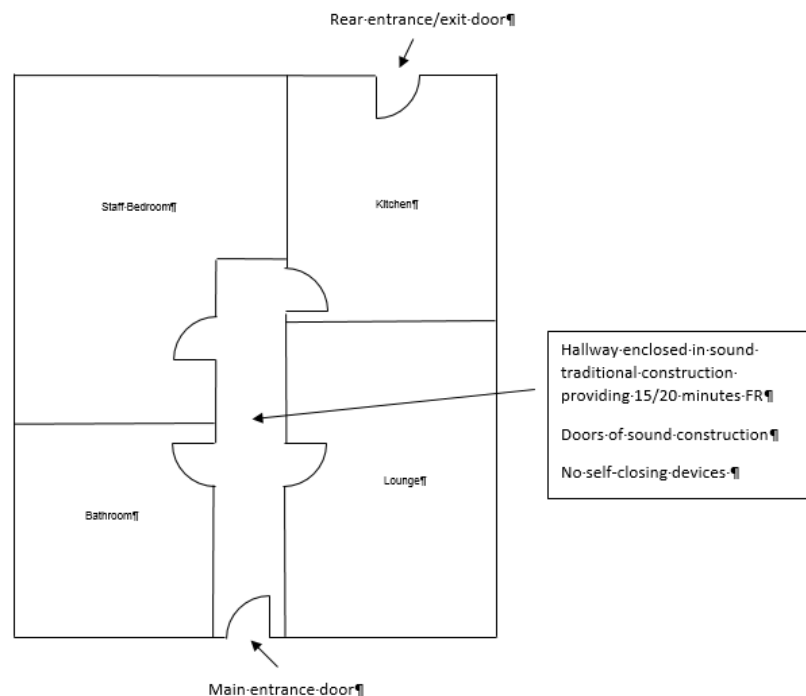


Figure 20 – Single storey supported housing

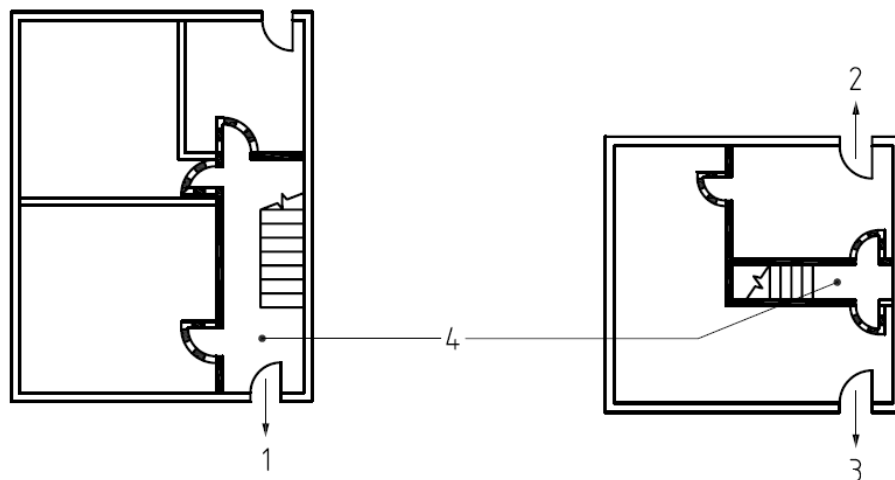
- 80.7 Travel distance in ground floor premises will generally be limited and not present a significant problem but, in any case, should, ideally, not exceed 9m in a room, or in a single direction of escape. Overall travel distance to a final exit should not exceed 18m. However, a degree of flexibility should be applied to travel distances, and such figures should not be applied prescriptively; distances can be increased or decreased, depending on the level of risk presented in each premises.

## Means of escape – Ground and first floor premises

- 80.8 The means of escape in two storey premises, with no floor more than 4.5m above ground level, will also be relatively simple. Habitable rooms on the ground floor should either have a final exit door, or, alternatively, a door that opens onto a hallway, which, itself, leads directly to a final exit.
- 80.9 The use of escape windows is a recognized alternative means of escape from two storey domestic premises. However, the ability of residents of supported housing to use escape windows unaided in the event of a fire, particularly from the first floor, needs to be carefully assessed, but will never be appropriate in premises that are not of low risk. Where escape windows are not considered appropriate, then the stairway should be made a protected route that leads directly to a final exit, or gives access to two separate escape routes, which are separated by fire-resisting construction, and lead to final exits (see Figure 21)



Figure 21a. Protected stairway delivering directly to the final exit

Figure 21b. Protected stairway allowing access to two independent escape routes



### Key

- 1 Final exit
- 2 Final exit (1)
- 3 Final exit (2)
- 4 Protected stairway

-  30 min fire-resisting construction
-  FD 30 Fire door

- 80.10 Travel distance should, ideally, not exceed 9m in a room, or in a single direction of escape. Overall travel distance to a protected stairway or final exit should not exceed 18m. However, a degree of flexibility should be applied to travel distances, and such figures should not be applied prescriptively; distances can be increased or decreased, depending on the level of risk presented in each premises.
- 80.11 Where a protected stairway is required, the stairway should, ideally, be enclosed in 30 minutes' fire-resisting construction, and doors to all rooms, other than toilets, shower rooms and bathrooms, should afford 30 minutes' fire resistance (FD30)



doors). However, in low risk premises, original, traditional construction (e.g. lath and plaster) in sound condition is acceptable; original, solid, well-fitting doors that would be likely to provide a fire resistance of 15-20 minutes are also acceptable, but hollow core or thin panelled doors should be replaced. Cupboard doors opening onto any protected stairway need not be fire resisting, but should be of solid construction and well-fitting if the cupboard contains a source of ignition.

- 80.12 In low risk premises, there will not normally be a need to fit self-closing devices to fire-resisting doors. However, in other premises, doors to any kitchens or lounges that open directly onto a protected stairway should be fitted with positive action self-closing devices.

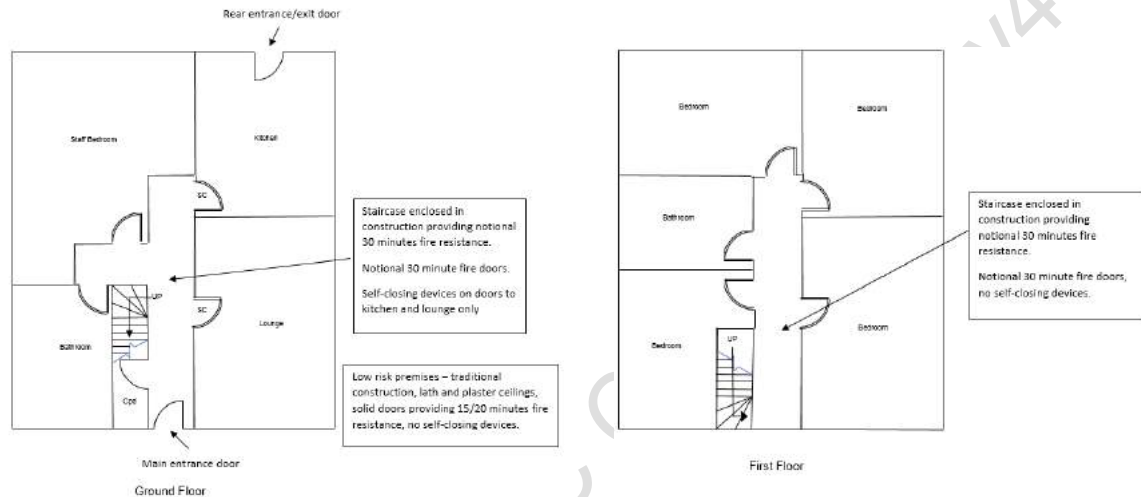


Figure 22 – Two storey supported housing

### Means of escape – ground and basement premises

- 80.13 The means of escape provisions for premises comprising a ground and basement storey should follow those detailed above for two storey premises.
- 80.14 Habitable rooms in the basement should either have a final exit or, alternatively, a door that opens onto a protected stairway which, itself, leads directly to a final exit at ground floor level.

### Means of escape – ground and two upper floors

- 80.15 The means of escape in three storey premises should consist of a protected stairway that leads directly to a final exit, or gives access to two separate escape routes, which are separated by fire-resisting construction and lead to final exits. The stairway should, ideally, be enclosed in 30 minutes' fire-resisting construction, and doors to all rooms, other than toilets, shower rooms and bathrooms, should afford 30 minutes' fire resistance (FD30 doors). This includes construction and doors to any cupboards that contain a source of ignition. However, in low risk premises, and premises protected by a sprinkler or watermist system, original, traditional construction (e.g. lath and plaster) in sound condition is acceptable; original, solid, well-fitting doors that would be likely to provide a fire resistance of 15-20 minutes are also acceptable, but hollow core or thin panelled doors should be replaced.

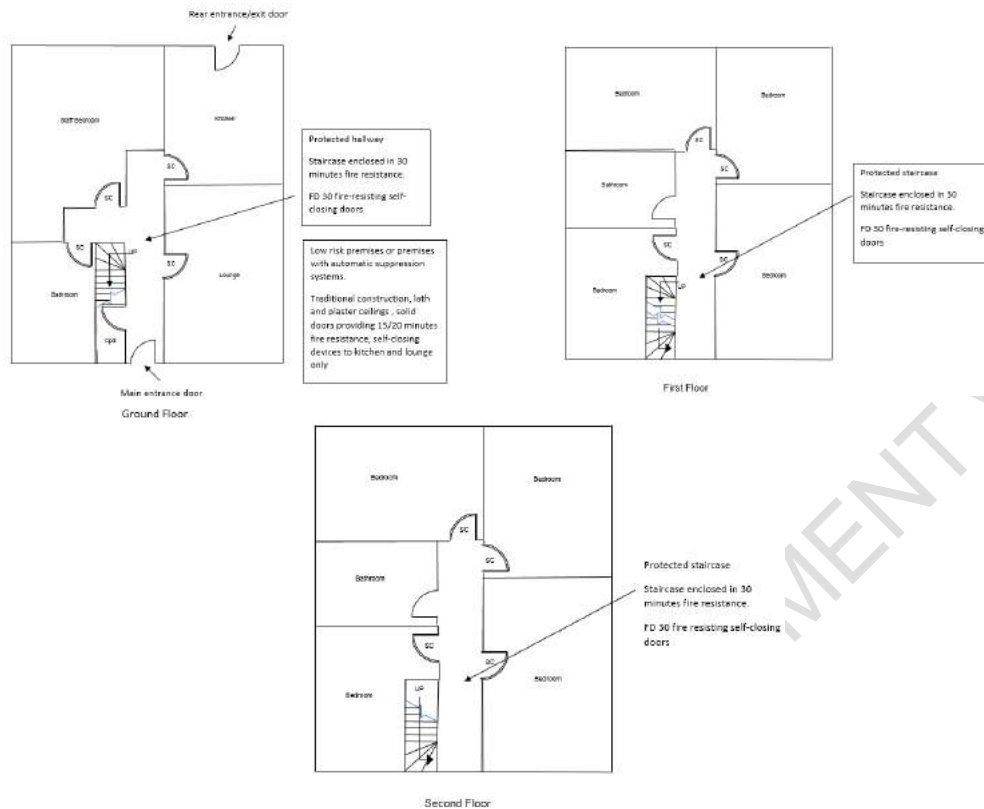


Figure 23 – Three storey supported housing

- 80.16 In low risk premises, self-closing devices need only be fitted to the doors of any lounge or kitchen that opens directly onto a protected stairway. In other premises, all fire-resisting doors that open onto a protected stairway should be self-closing.
- 80.17 Travel distance, ideally, should not exceed 9m in a room, or in a single direction of escape, with an overall travel distance to the protected stairway or final exit of 18m. However, a degree of flexibility should be applied to travel distances and such figures should not be applied prescriptively; distances can be increased or decreased, depending on the level of risk presented in each premises.

### Means of escape – properties of four or more storeys

- 80.18 Four (or more) storey supported housing is uncommon. Specialist advice on means of escape from such premises will be required. Where residents need significant assistance to evacuate, protection of the premises by a sprinkler or watermist system might be appropriate.

### Protected routes and stairways in supported housing

- 80.19 In protected routes and stairways, protection of the route or stairway against spread of fire from an adjacent room will rely on the fire resistance of the door to the room. Any door will offer a degree of fire resistance, but, in the paragraphs above, doors that will provide 30 minutes' fire resistance are specified for some circumstances. In these circumstances, a "notional FD30 door", which satisfied the standard for 30 minutes' fire resistance at the time the door was manufactured or installed, will normally be satisfactory, provided that the level of automatic fire detection recommended in this guide is provided (see Section 83).

- 80.20 These doors are not fitted with intumescent strips and so will not satisfy the current test for 30 minutes' fire resistance. If, in a three storey house, a prolonged evacuation time is anticipated, notional FD30 doors should be upgraded by fitting intumescent strips to the head and vertical edges of the doors; alternatively, a new, certificated FD30 doorset may be installed.
- 80.21 It will not normally be necessary to fit smoke seals to any fire-resisting doors in the supported housing premises for which this guide provides recommendations unless prolonged evacuation times are anticipated. However, if upgrading of doors by fitting intumescent strips, or replacement of doors with new 30 minute doorsets, is considered appropriate, the doors should also be fitted with smoke seals.
- 80.22 Where fire-resisting, self-closing doors present an obstacle to normal access and egress, consideration should be given to the fitting of hold-open devices or swing-free devices. These devices are designed to either hold a door open against the action of the self-closing device, or allow a door to swing free in normal use and, in the event of a fire, automatically to release the self-closing mechanism to close the door. Acoustically-actuated hold-open devices should not be used to hold open doors onto protected stairways in supported housing unless staff (whether awake or asleep) are present on a 24-hour basis and a robust management system is in place. BS 7273-4 provides recommendations for the design, installation, commissioning and maintenance of door release mechanisms.
- 80.23 Fire-resisting doors opening onto protected routes and stairways need to be a good fit within their frames, with a maximum of 4mm gaps between the sides and tops of a door and the door frame. The gaps at the base of the door should be limited to 6mm. The doors and frames should be in good condition, not damaged, or have openings in them where locks or security fastenings have been removed.
- 80.24 Protected routes and stairways should be kept free of any obstructions and significant fire risks, such as portable heaters or cooking facilities. However, this does not imply that stairways and corridors need to be sterile areas that contain no risks at all; the need to retain a homely environment must be considered. Therefore, items such as pictures on walls, plants, tables and other small items of furniture are normally acceptable. Storage cupboards in protected stairways should be kept locked shut.
- 80.25 Gas meters, electricity meters and distribution boards should, ideally, not be sited in escape corridors or stairways. Where meters and distribution boards are located at high level, and are not accessible to residents, they present little risk, providing they are installed and regularly inspected in accordance with gas safety regulations and current IET regulations. Meters and distribution boards located at low level should, ideally, be enclosed in fire-resisting construction and be secured to prevent unauthorised access.

## **81. Fire safety signs for all specialized housing**

- 81.1 In small single storey, or single stairway, sheltered or extra care housing, there will be no requirement to provide 'FIRE EXIT' signs. Residents will be familiar with the fire exit routes, as they will be used on a daily basis for normal access and egress from the building.

- 81.2 Similarly, in most supported housing that resembles a single-family dwelling, there will be no requirement for 'FIRE EXIT' signs. In the majority of these environments, the fire exit routes will be simple and straightforward, and the residents will be familiar with the layout of the premises and the location of exits.
- 81.3 In sheltered and extra care housing with more than one fire exit route, or where the fire exit routes are not obvious or complicated, fire exit signage should be provided. This might also be necessary in some larger supported housing with alternative fire exit routes that are not in normal use; these may need to be indicated if the residents are not familiar with them.
- 81.4 In supported housing, no further fire safety signs are likely to be necessary, as it should be recognized that there is a need to retain a homely environment and the excessive use of signs and notices should be avoided as far as possible.
- 81.5 In sheltered and extra care housing, the following signs should normally be provided:
- 'FIRE DOOR KEEP LOCKED SHUT' signs on the external face of doors to storerooms, electrical equipment cupboards and any ancillary rooms located within the common parts.
  - 'FIRE DOOR KEEP SHUT' signs on both faces of fire-resisting doors forming part of the protection to the common escape routes, and on cross-corridor fire doors. However, this does not apply to flat entrance doors or doors that are normally held open, closing automatically on the operation of smoke detectors.
  - Where fire doors are held open, but release on operation of smoke detectors, signs reading 'AUTOMATIC FIRE DOOR KEEP CLEAR', visible when the door is held open.

## 82. Emergency escape lighting in all specialized housing

- 82.1 In most single storey and small two storey premises providing supported housing, similar in size and layout to a single-family dwelling, emergency lighting is unlikely to be necessary. However, where, as a result of mobility problems, residents need assistance with escape, and the communal circulation space does not receive illumination from a street light or other external source at all times during the night, a basic level of illumination should be available if the normal lighting fails during a fire. This may comprise provision, within the hallway and upstairs landing (if applicable), of an automatic plug-in night light(s) of a type that continues to operate if the mains electricity fails. Where residents' rooms do not receive borrowed lighting throughout the night, the night light should be of a type that can be removed from its socket or mounting to be used as a torch.
- 82.2 In other supported housing premises, emergency escape lighting should generally be provided within the escape routes in accordance with the recommendations of paragraph 82.5.
- 82.3 In small blocks of sheltered and extra care flats of no more than two storeys, with adequate levels of borrowed lighting (e.g. from street lighting), emergency escape lighting may not be required. However, where borrowed lighting is not reliable (e.g. because street lighting is switched off during part of the night), emergency escape lighting may be required even in two storey blocks. In all other sheltered and extra

care housing, emergency escape lighting should be provided within escape routes, stairways, communal rooms and plant rooms.

- 82.4 In blocks of sheltered and extra care flats, the likelihood of loss of the conventional lighting within escape routes, as a result of fire in individual flats, at a time when residents may need to use the escape routes, is very low. Therefore, the installation or upgrading of emergency escape lighting, particularly in low rise blocks, is unlikely to be a high priority compared to other improvements, such as upgrading of fire-resisting doors.
- 82.5 Emergency escape lighting in specialized housing should conform to the recommendations of BS 5266-1 and the requirements of BS 5266-8 and BS EN 1838, and it should provide illumination for three hours in the event of power failure. One or more test switches should be provided, so that the emergency escape lighting can be tested every month by simulating failure of the normal power supply to the luminaires without the need to isolate normal lighting circuits.

### 83. Fire detection and alarm systems

#### **Fire detection and alarm systems for supported housing**

- 83.1 Supported housing normally comprises a form of single-family dwelling, commonly converted for the purpose. It follows that, in the event of fire, anywhere in the property, all residents need to evacuate immediately. Accordingly, given the vulnerable nature of the residents, it will be necessary to provide a very high standard of automatic fire detection. The design of the system should be as set out in the following paragraphs, but may be varied if this is justified by a fire risk assessment carried out by a competent person, taking into account the nature of the residents for whom the premises are intended (though the standard of system should not be reduced solely on the basis that this is a higher standard than is necessary at the time of the fire risk assessment).
- 83.2 The extent of automatic fire detection should comply with the recommendations of BS 5839-6: 2013 for a Category LD1 system (which is the highest category for protection of life in domestic premises). Smoke detectors should be provided in all circulation spaces, and in all rooms within the property, other than kitchens, toilets, shower rooms and bathrooms. In kitchens, heat detection should be provided. However, where a kitchen or dining room forms an inner room accessed only from the lounge, the detector in the inner room may be omitted (rendering the system Category as LD2).
- 83.3 No fire detection need be provided in toilets, shower rooms and bathrooms or, normally, in cupboards. There will normally be no need for fire detection within roof voids, unless there are specific, significant fire hazards within a roof void, such as electrical equipment for photo-voltaic systems. All smoke detectors within circulation spaces, or areas into which kitchens open, should be of the optical type; alternatively, appropriate multi-sensor detectors may be used.
- 83.4 In single storey premises and premises with no more than four bedrooms, fire detection may comprise a Grade D system, as defined in BS 5839-6: 2013 (i.e. the detectors may comprise mains-operated domestic smoke alarms with internal standby batteries or capacitors). All smoke alarms should be interlinked by either wiring or radio transmission, so that, when fire is detected by one smoke alarm, all smoke alarms in the property sound simultaneously. Unless there is at least one

member of staff present (whether awake or asleep) on a 24-hour basis, the standby batteries should be tamper proof (e.g. cells soldered to a printed circuit board, capacitors or PP3-type batteries that are fixed in place and cannot readily be removed).

- 83.5 The disadvantage of domestic smoke alarms is that the interlink between devices (wiring or radio) is not monitored. This means that, if the interlink fails, there is no warning of the failure. If numerous smoke alarms are interlinked, it is difficult to detect this during routine testing, unless two persons carry out the testing (one of whom operates a test control, while the other endeavours to check that every other smoke alarm is responding). In addition, unless additional equipment is installed, silencing after false alarms or disablement to prevent false alarms is not always easily facilitated, nor will the location of the fire be immediately identifiable.
- 83.6 Accordingly, in premises of two or more storeys with more than four bedrooms, domestic smoke alarms should not normally be regarded as adequate. The fire detection in these premises should comprise a Grade A system, as defined in BS 5839-6, with control and indicating equipment sited within the ground floor circulation space, fire detectors and fire alarm sounders. Where there is, at any time, less than two members of staff on duty, either the system should be addressable or there should be remote indicator lamps outside the entrance door to each resident's accommodation, so that the location of a fire can be quickly identified. However, if existing premises of not more than two storeys are provided with sufficient mains-operated smoke alarms (with standby batteries or capacitors), these need not be replaced with a Grade A system until the smoke alarms reach the end of their useful life.
- 83.7 To satisfy the recommendations of BS 5839-6, the standby batteries for a Grade A system should be able to operate the system for 72 hours in the event of mains failure, after which there should be sufficient capacity to sound an evacuation signal for 15 minutes. However, in premises with at least one member of staff present (whether awake or asleep) on a 24-hour basis, the period of 72 hours may be reduced to 24 hours.
- 83.8 BS 5839-6 recommends that the sound pressure level of the fire alarm signal should be at least 85dB(A) at the open doorway of every bedroom, but might need to be a higher level of 75dB(A) at the bedhead of each bedroom in a house in multiple occupation. In practice, this higher level will, in any case, be achieved in Grade D systems in which smoke alarms are provided in each bedroom, as each smoke alarm acts as both a fire detector and sounder. In the case of Grade A systems, fire alarm sounders (which may be incorporated in the base of each detector) should be installed in each bedroom.
- 83.9 In areas other than bedrooms, the sound pressure level of the fire alarm system need not be as high as found in commercial premises; typically, a sound pressure level of 50dB(A) will be sufficient. However, care should be taken to ensure that the sound pressure level, frequency and other characteristics of alarm sounders (whether in the form of smoke alarms or independent sounders) do not cause adverse reaction that would be detrimental to the evacuation of residents who are sensitive to alarm signals as the result of mental health problems. In such cases, alternative forms of warning, such as visual alarm devices or voice sounders, might need to be considered.

- 83.10 People with hearing loss often have difficulty in hearing high frequencies, such as those produced by domestic smoke alarms; in addition, high frequencies are also subject to greater attenuation by partitions, walls and doors. For residents who are hard of hearing, lower frequency alarm signals are, therefore, preferable. Lower frequencies are produced by the fire alarm sounders used in Grade A systems or low frequency sounders that can be linked to domestic smoke alarms (e.g. by radio).
- 83.11 Where residents are deaf or severely hard of hearing, additional fire warning devices should be provided to alert them in the event of fire. For residents who need to be warned when they are awake, visual alarm devices (flashing beacons) are normally suitable. If it is necessary to rouse deaf or severely hard of hearing people when they are asleep, vibrating pads, linked to the fire alarm system, should be used for this purpose; these are placed under pillows or mattresses.
- 83.12 If supported housing takes the form of small flats or bedsits, in which smoke detectors might result in false alarms (e.g. as a result of smoking or cooking), it is acceptable for the fire detection and alarm system to comprise a "mixed system" (as defined in BS 5939-6), provided residents can respond appropriately to the signal from a smoke alarm in their own accommodation.
- 83.13 In this arrangement (which is commonly used in houses in multiple occupation), warning of a resident in the event of fire within their own accommodation is given by a Grade D system, comprising mains-powered domestic smoke and heat alarms (with standby batteries or capacitors). Within the resident's accommodation, all smoke and heat alarms are interlinked. In the common parts, a Grade A system is provided, with smoke detectors in all circulation areas and rooms, other than toilets, shower rooms and bathrooms. Suitably sited sounders and heat detectors forming part of the Grade A system are installed in each resident's accommodation. Heat detectors rarely cause false alarms, and are much slower to operate than smoke detectors, but will give a warning to other residents in the event of a significant fire.
- 83.14 A mixed system, as described above, is only suitable for a property in which, when fire occurs, there is an immediate and simultaneous evacuation throughout the property. If a stay put strategy were adopted (as in the case of sheltered housing), a mixed system is suitable only if, additionally, the smoke and heat alarms in each resident's accommodation transmit a signal to alert staff or an alarm receiving centre, so that the fire and rescue service are summoned; heat detectors alone are not sufficiently sensitive for this purpose
- 83.15 In supported housing with a simultaneous evacuation strategy, it is not normally necessary for alarm signals to be transmitted to an alarm receiving centre, particularly if one or more members of staff (whether awake or asleep) are present on a 24-hour basis. However, where there is no 24-hour staff presence, or there is any uncertainty as to whether, in the event of a confirmed fire, staff will summon the fire and rescue service immediately, remote transmission of fire alarm signals to an alarm receiving centre may be appropriate, so that early attendance of the fire and rescue service is facilitated in the event of fire. In this case, consideration needs to be given to measures or arrangements to avoid summoning of the fire and rescue service in the event of false alarms.
- 83.16 In supported housing, manual call points will not normally be necessary; in particular, manual call points need never be provided if a Grade D fire detection and alarm system would satisfy the recommendations of this guide. However, the

provision of manual call points should be considered if a verbal warning of fire, shouted by occupants, is unlikely to be sufficient; this is only likely to be the case in supported housing with more than six bedrooms or more than three storeys.

### **Fire detection and alarm systems for sheltered and extra care housing**

- 83.17 There has been considerable confusion as to the appropriate fire warning strategy for sheltered and extra care housing. This has often resulted in a communal fire alarm system, similar to that installed in a hotel, in which, where a fire is detected by a fire detector within the flat or common parts, an alarm signal is given throughout the premises, including every flat. Such an arrangement contradicts the “stay put” policy adopted in sheltered housing, in which, when a fire is detected in one flat, there is no need for occupants of other flats to evacuate, nor need they do so in the event of detection of fire in the common parts. Not only does this cause confusion, but it is wholly unreasonable to expect residents to remain within their flat for any length of time while fire alarm sounders are operating within their flat.
- 83.18 Sheltered and extra care housing varies greatly in the design of the building, the nature of the residents, the level of support provided and the extent of communal facilities. Accordingly, it is not possible to specify a unique, generic form of fire detection and fire alarm system for all sheltered and extra care housing blocks. It is necessary for the specifier to consider the objectives of the fire warning and evacuation strategy, and to ensure that designs meet these objectives in specific circumstances. However, system design should be based on the principles outlined below, which follow the recommendations of BS 5839-6: 2013.
- 83.19 As in general needs housing, the “stay put” policy in sheltered and extra care housing is predicated on the assumption that the fire and rescue service will attend and extinguish any fire. It is also assumed that, if necessary, the fire and rescue service will instruct residents, in flats that might ultimately be affected by the fire, to evacuate.
- 83.20 In the case of sheltered and extra care housing, residents might be slower to evacuate if required to do so. Accordingly, there is a need to compensate for this by earlier attendance of the fire and rescue service.
- 83.21 On the basis of these considerations, the objectives of fire warning arrangements in sheltered and extra care housing are as follows:
- a) to alert residents in the flat of fire origin to enable their early evacuation;
  - b) to result in the summoning of the fire and rescue service to the fire, so facilitating their early attendance (and, where relevant, action by staff), while avoiding, as far as practicable, attendance to false alarms; and
  - c) early detection of a fire in any communal facilities (such as lounges or laundries) that might grow to affect common escape routes; this permits a warning to be given within escape routes threatened by fire, ensuring that such areas are evacuated and not entered by residents.
- 83.22 The first of these objectives can be achieved, as in any housing, by the provision of interlinked domestic smoke and heat alarms within each flat; the smoke and heat alarms within one flat should not be interlinked with those in other flats. The extent of automatic fire detection in each flat should comply with the recommendations of BS 5839-6: 2013 for a Category LD1 system. Smoke alarms should be provided in



all circulation spaces, and in all rooms, within each flat, other than kitchens, toilets, shower rooms and bathrooms. In kitchens, heat alarms should be provided. No fire detection need be provided in toilets, shower rooms and bathrooms or, normally, in cupboards. All smoke detectors within circulation spaces, or areas into which kitchens open, should be of the optical type; alternatively, appropriate multi-sensor detectors may be used.

- 83.23 It is acknowledged that this level of fire detection is not required for compliance with building regulations and may not be found within existing sheltered housing. However, this level of detection is strongly recommended for all new sheltered housing, upgrading of existing sheltered housing and when existing fire detection within flats is replaced. This standard should also be regarded as an ultimate objective for all existing sheltered housing.
- 83.24 Research has shown that low frequency alarm devices, such as those producing a 520 Hz square wave signal, are more effective in alerting persons who are hard of hearing in the event of fire; it is possible to connect devices producing this audible signal to some models of smoke alarm. Where residents are deaf or severely hard of hearing, additional fire warning devices, compliant with the requirements of BS 5446-3, should be provided to alert them in the event of fire. For residents who need to be warned when they are awake, visual alarm devices (flashing beacons) are normally suitable. If it is necessary to rouse deaf or severely hard of hearing people when they are asleep, vibrating pads, linked to the fire alarm system, should be used for this purpose; these are placed under pillows or mattresses.
- 83.25 The first objective (alerting residents to a fire in their own flat) could also be achieved by use of smoke and heat detectors connected to a communal fire detection and alarm system. If this arrangement is adopted, operation of the detector(s) within a flat should result in an audible alarm signal in that flat, but not in the common parts or any other flat.
- 83.26 The second objective, namely the early summoning of the fire and rescue service, is not primarily to effect a rescue of residents in the flat of fire origin; it is assumed that, generally, residents are capable of self-evacuation. If residents are not capable of self-evacuation, their safety in the event of fire cannot be assured by early warning and early summoning of the fire and rescue service alone.
- 83.27 The main reason for early summoning of the fire and rescue service is that, as in the case in any premises with a "stay put" policy, it may be necessary for the fire and rescue service to initiate evacuation of flats beyond the flat of fire origin, particularly if the fire proves difficult swiftly to bring under control. However, in premises within the scope of this guidance, it is recognized that response and evacuation by residents may take longer than in, for example, a general needs block of flats, and that residents may be more vulnerable to smoke within escape routes than the general population. The early attendance by the fire and rescue service provides some compensation for these factors. In addition, if the fire and rescue service are summoned immediately when a smoke detector operates, the potential for early extinguishment of the fire makes the need for the further evacuation of other flats less likely.
- 83.28 Notwithstanding the above, the changing demographics of the sheltered housing population are such that the need to rescue occupants in the flat of fire origin can be greater than in general needs housing. The likelihood of successful rescue is increased if fire and rescue service attendance times are short and there are

measures to limit the development of fire prior to fire and rescue service attendance (e.g. a sprinkler or watermist system).

- 83.29 The early summoning of the fire and rescue service should be achieved by monitoring of the domestic smoke and heat alarms (or communal smoke and heat detectors) within each flat, so enabling fire alarm signals to be transmitted to any on-site scheme manager (or care staff in extra care housing) or, when no staff are available to respond to alarm signals, to an alarm receiving centre (ARC). In this case, alarm signals should be filtered by staff or the ARC (i.e. verifying the occurrence of a fire) to avoid summoning of the fire and rescue service to false alarms. While, in case of doubt, the fire and rescue service should always be summoned, effective filtering is necessary to avoid burdening the fire and rescue service with unwanted fire alarm signals. An effective way of achieving filtering is to use a social (“Telecare”) alarm system (which may already be necessary to monitor other devices, such as pull cord or pendant alarm devices), as this allows two-way speech communication with residents.
- 83.30 Certain engineering safeguards are necessary to ensure reliable alarm transmission by a social (“Telecare”) alarm system. In particular, it is necessary to ensure that a signal is transmitted, regardless of which smoke or heat detector operates. Fire signals need to be readily distinguishable from social alarm signals by staff and the ARC.
- 83.31 In addition, measures are necessary to ensure that receipt of alarm signals by staff, and by any ARC, is not significantly delayed if, prior to the fire alarm signal, a device on the social alarm signal is operated in the flat of fire origin or in any (or all) other flats. At the very least, under these circumstances, the display at the ARC ought immediately to indicate unambiguously a waiting fire alarm signal, without the need to interrupt speech communication initiated in response to a signal from a social alarm device (see Appendix 6).
- 83.32 Smoke (or heat) detection (as appropriate) should be installed in any communal facility, such as a communal lounge, laundry, etc., from where fire could spread to affect common escape routes; smoke detection should then also be installed within adjacent common escape routes. When a fire detector in any one of these areas operates, a signal should be transmitted to staff and/or an ARC, and sounders should operate throughout adjacent common parts to ensure that these areas are evacuated, while residents can still remain in their own flats.
- 83.33 Even if there are no communal facilities, where there might be combustible materials, such as chairs and tables, within common parts, smoke detection should also be installed within the common parts. Again, operation of these detectors should result in transmission of alarm signals to the scheme manager (or care staff) and/or ARC and trigger an audible alarm only in the common parts.
- 83.34 Where a communal system is installed because there are communal facilities and/or internal corridors containing combustible material, the system should be installed in accordance with the recommendations of BS 5839-6; manual call points should also be provided within the common parts. However, where there is a “stay put” policy, it is undesirable for the fire alarm signal in common parts to be audible within the flats; ideally, the sound pressure level within the flats should not exceed 45dB(A).

- 83.35 No communal system is necessary in simple sheltered housing that, architecturally, is similar to a general needs block of flats with no communal facilities; fire detection can be limited to the remotely monitored smoke and heat alarms in each flat. However, smoke detection (but not manual call points) might be necessary to operate automatically opening vents (see paragraphs 79.6 – 79.9). In this case, the smoke detection should generally be installed in accordance with the recommendations of BS 5839-1, except that no sounders should be provided.
- 83.36 No fire detection need be installed within roof voids, provided the compartmentation within roof voids satisfies the recommendations of this guide (see paragraphs 76.4-76.6) and there are no significant fire hazards (e.g. boilers, photovoltaic systems, etc.) within the voids. Where, as a result of such hazards, fire detection within the voids is considered to be necessary, the type of detection and its fire warning strategy will depend on the location of the fire hazards. If the hazards exist in the void above a flat, the detection may comprise smoke alarms linked only to the smoke alarms in the flat. If the fire hazards exist within a void over common parts, the fire detection should give a warning in the common parts.
- 83.37 If a communal system is installed, as a further enhancement, heat detectors, connected to this system, could be installed within the hallway of each flat (in addition to the smoke alarm(s) within the flat). The heat detectors could be used as confirmation of a fire within a flat. However, the provision of the heat detectors does not obviate the need for remote monitoring of the domestic smoke alarms (or communal system smoke detectors) in each flat, as heat detectors would not result in early enough summoning of the fire and rescue service. Under these circumstances, if a heat detector operates, it might be appropriate, according to the fire risk assessment for the premises, to evacuate adjacent (or all) common parts and, if appropriate, where staff are present on a 24-hour basis, certain flats in close proximity to the flat of fire origin.
- 83.38 Any ARC to which fire alarm signals from a communal fire detection and fire alarm system in sheltered housing are transmitted may be, but need not necessarily be, the same ARC to which fire alarm signals from flats are relayed, as filtering by two-way speech communication is not normally possible for fire alarm signals within common parts or communal facilities.

#### **84. Automatic fire suppression systems in all specialized housing**

- 84.1 Automatic fire suppression systems for specialized housing comprise sprinkler systems and watermist systems. Such systems are designed to detect a fire and either extinguish the fire in its early stages or restrict the fire to a limited area.
- 84.2 This guide strongly recommends sprinkler or watermist protection for all new sheltered and extra care housing and for high risk supported housing. For existing high risk supported housing, retrofitting of such systems is likely to be necessary if residents need the assistance of staff to evacuate the premises and sufficient staff are not available at all times to do so before escape routes might become untenable.
- 84.3 In existing specialized housing, the retrofitting of sprinkler or watermist systems might be used as a compensatory measure to permit acceptance of fire safety measures that are so far removed from current standards as to present serious risk to residents. However, watermist protection is not a suitable means to compensate

for extended travel distances in common corridors in new build or existing specialized housing premises.

- 84.4 Sprinkler systems should be designed and installed in accordance with BS 9251, but may, alternatively, be installed in accordance with BS EN 12845. For sheltered housing, extra care housing, and for supported housing in which residents cannot evacuate without the assistance of staff, systems installed in accordance with BS 9251 should satisfy the recommendations of that standard for a Category 2 system. In other supported housing a Category 1 system will normally suffice. Watermist systems should be designed, installed and commissioned in accordance with BS 8458.
- 84.5 If a pump is required for the supply of water to the sprinkler or watermist system in specialized housing, the pump should be duplicated, so that, in the event of failure of one pump (the duty pump), another pump (the standby pump) automatically comes into operation. There should be a suitable standby power supply for these pumps, comprising secondary batteries of sufficient duration to operate the system for the minimum duration over which the system is required to operate.
- 84.6 In sheltered and extra care housing, it may not be necessary for a suppression system to protect common corridors or staircases, unless it is anticipated that these areas will not be kept devoid of combustible materials. However, before omitting protection from these areas, consideration should be given to any future presence of combustible materials (e.g. upholstered furniture in corridors or permitted presence of mobility scooters).

## **85. Fire extinguishing appliances for all specialized housing**

- 85.1 It is not normally considered necessary to provide fire extinguishers in the common parts of sheltered or extra care housing. Such equipment should only be used by those trained in its use, and it is not considered appropriate, or advisable, for older or frail residents to use fire-fighting equipment. In addition, if a fire occurs in a flat, the provision of fire extinguishing appliances in the common parts might encourage some residents of the flats to enter the common parts to obtain an appliance and return to their flat to fight the fire.
- 85.2 Any proposal for the provision of fire extinguishing appliances, or continued presence of existing equipment, should be based only on full justification of the proposal by a fire risk assessment, based on use by qualified staff.
- 85.3 Notwithstanding the above, in sheltered and extra care premises, it is generally appropriate to provide portable fire extinguishers in plant rooms and similar ancillary accommodation, communal facilities, such as laundries, common lounges, kitchens, hairdressers, any staff rooms, and places where people are employed to work, etc.
- 85.4 A similar approach to the provision of fire extinguishers and fire blankets should be adopted in premises providing supported housing. It would not, in general, be expected, or advised, that residents in supported housing would use fire-fighting equipment. In the majority of supported housing, portable fire extinguishers and fire blankets should be provided only for use by staff who have been trained in their use.

85.5 Where fire extinguishers are provided, they should be installed in accordance with the recommendations of BS 5306-8. However, in the case of single storey supported housing with no more than four bedrooms, fire extinguishing appliances may be limited to a single fire extinguisher with a 13A rating and a fire blanket within the kitchen. Where hose reels are currently provided in sheltered or extra care blocks of flats, it is recommended that, subject to the fire risk assessment, they be removed.

## 86. Fire-fighting facilities

86.1 Fire-fighting facilities are required in certain specialized housing, predominantly larger, more complex sheltered and extra care schemes, to assist the fire and rescue service for the safety of life. These facilities may include:

- Vehicle access for fire appliances.
- Access for fire-fighting personnel.
- Fire mains within buildings.
- Venting of heat and smoke from basement areas.

86.2 In all specialized housing, it is usually necessary to ensure that vehicle access is adequate. In sheltered and extra care blocks, some means of smoke control should be available. In larger, more complex sheltered and extra care schemes, facilities, such as fire mains, fire-fighting shafts and fire-fighting lifts, may be required.

86.3 In other than very unusual circumstances, there should be no requirement to provide fire-fighting facilities in existing premises, or upgrade any facilities, if these were not required at the time of construction to comply with the standards of the day. However, it might be considered appropriate to provide or upgrade facilities in certain older premises.

86.4 Listed below is the current benchmark design guidance for fire-fighting facilities:

- For houses, there should be vehicle access to within 45m of all points of the house. BS 9991 recommends that, if the house is fitted with a sprinkler system, this distance can be extended to either 75m or 90m, depending on the height of the top floor. In supported housing with vulnerable residents, it will normally be appropriate to restrict the distance to 45m in all circumstances.
- In blocks of sheltered and extra care flats without an internal fire main, there should be vehicle access for a fire appliance to within 45m of all points within each flat. (In previous guidance, this distance was 60m.)
- In blocks of flats fitted with a fire main, all points within each flat should be within 60m of a landing valve on the fire main in a fire-fighting shaft (45m if the landing valve is in a protected stairway).
- Flats over 18m in height should be provided with a fire-fighting shaft, consisting of a fire-fighting stairway and a fire main located in the stairway, and a fire-fighting lift. The fire-fighting lift can, in blocks of flats, open into the common corridor giving access to the flat entrance doors, providing the lift doors are no more than 7.5m from the door to the stairway.

- 86.5 In existing specialized housing, any fire-fighting facilities may not be in accordance with the above. In these circumstances, the advice of the fire and rescue service may need to be sought, as it may not be possible, or even appropriate, to consider upgrades to meet current benchmarks. What is important is that the facilities provided should, at least, meet the standard of the day when the premises were built and that these are being maintained in efficient working order.

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# Part I: Managing fire risk – ongoing control

## Key Points:

- There are fundamental differences between fire safety management in supported housing, sheltered housing and extra care housing, but, equally, there are many common factors, which are set out below.
- There should be a defined fire safety policy, with one organization taking the lead in overseeing its implementation. Within that organization, someone should be appointed to take responsibility for fire safety.
- Where a number of different organizations have a role to play in management of fire safety, there should be a matrix of responsibilities that forms part of the documented fire safety arrangements for the premises.
- Duty holders should ensure that someone is designated to provide guidance on fire safety measures required by the FSO.
- Engagement with residents is an essential part of fire safety management. There is an important role for any agency that engages with residents to consider the safety of residents from fire by identifying obvious fire hazards and identifying residents who are particularly at risk from fire.
- Face-to-face discussions, residents' handbooks, websites and other media can be used to communicate vital fire safety messages.
- All staff should be given suitable fire safety instruction, commensurate with their role in fire safety.
- Relevant fire procedures should be prepared and everyone should be made aware of them.
- There should be suitable management of risks from building works, including adopting a 'hot work' permit system.
- Programmes should be put in place for routine inspection, testing, servicing and maintenance of fire safety systems and equipment.
- Housekeeping and maintenance should be monitored through formal inspections, and as part of day-to-day activities by staff.
- Fire risk assessments should be reviewed to monitor standards.
- There should be processes for scrutinizing planned alterations in order to consider their impact on fire safety.
- Suitable records should be maintained.
- Where appropriate, there should be liaison with the fire and rescue service, and residents should be advised of the availability of home fire safety checks by the fire and rescue service.

## 87. Introduction

- 87.1 Ultimately, the fire safety of residents in specialized housing will depend on appropriate managerial arrangements. Whatever physical fire safety measures are provided in specialized housing to ensure a suitable standard of safety, their effectiveness will only be as good as their management and maintenance.
- 87.2 In any properties used for supported housing, managing fire safety should be simple and straightforward. However, in some supported housing, the responsibilities for even quite simple managerial arrangements may be dispersed across several different organizations, all of which need to co-operate with each other to co-ordinate the measures necessary for compliance with fire safety legislation and to ensure the safety of all residents.
- 87.3 In sheltered housing, while management of fire safety might be more involved, responsibilities for management of fire safety generally fall on a more limited number of parties. In extra care housing, the complexity of fire safety management will generally reflect that in sheltered housing, but there will often be additional parties involved, such as a care provider, again necessitating co-operation between all parties.
- 87.4 There are many other fundamental differences between fire safety management in supported housing, sheltered housing and extra care housing. These include:
- In sheltered housing, the availability of staff to manage fire safety at all times is normally limited. In supported housing and extra care housing, there is more likelihood of a staff presence on a 24-hour basis. While the role of such staff will commonly not extend to matters such as maintenance of fire protection systems and equipment, they will have a role to perform in the event of fire. It may also be relevant for them to take responsibility for routine housekeeping matters and, in some cases, routine checking and testing of fire protection measures (e.g. checking that fire extinguishers are present, checking that fire doors operate effectively and weekly testing of the fire alarm system).
  - The response to a fire in sheltered and extra care housing, where the evacuation strategy is one of “stay put”, contrasts with the simultaneous evacuation of all occupants normally adopted in supported housing.
  - In sheltered and extra care housing, parts of the building may be under different ownership (e.g. leasehold flats).
  - In sheltered and extra care housing, landlords and others responsible for fire safety have limited control over the activities of tenants within their flat, and even less over leaseholders. This may, or may not, be the case in supported housing.
  - In sheltered and extra care housing, there may be limited rights of access to flats and, even where entry can be gained, restrictions may apply. This is less likely to be the case in relation to residents’ accommodation in supported housing.
  - Residents in sheltered and extra care housing are commonly a disparate group with only limited common allegiance, whereas, in supported housing, residents, in conjunction with any care staff, are more likely to behave as a family group.
  - In sheltered and extra care housing, the level of fire safety knowledge of residents will be variable and rely upon voluntary co-operation in embracing fire



safety initiatives. In supported housing, less knowledge of fire safety is often required of residents, but, on the other hand, the cognitive capacity of residents in some supported housing may be seriously detrimental to understanding of even simple fire procedures.

87.5 Those responsible for ensuring adequate fire safety in specialized housing and managing this on an ongoing basis can include owners, housing providers, managing agents and commissioners of care services. Included in this are:

- Social landlords, such as local authorities and housing associations.
- Private rented sector landlords.
- Local authorities, as the commissioners of care services.

As discussed in Part C of this guide, according to circumstances, any or all of the above parties may constitute “duty holders”, who have duties imposed upon them under the Regulatory Reform (Fire Safety) Order 2005.

87.6 Residents also have their part to play. Their understanding of fire prevention (see Part F), the evacuation strategy for the building and the fire procedures are fundamental to ongoing fire safety. This requires engagement with residents on a regular, ongoing basis.

87.7 Fire risk assessors and enforcing authorities must understand what is achievable by management, taking into account the nature of the premises and the manner in which they are intended to operate. Equally, it would normally be inappropriate to relax other fire safety measures on the assumption that a high level of management will be in place.

88.8 There are minimal requirements for fire safety management that should be satisfied in order for the standard of fire safety to be maintained at an adequate level. These are discussed in this Part of the guide.

## **88. Responsibility for fire safety in the building**

88.1 In some specialized housing, there will not necessarily be anyone on site to manage fire safety on a day-by-day basis. Nevertheless, it is important that one of the relevant duty holders under legislation takes overall responsibility for fire safety, so that no key aspects of fire safety management are overlooked. Within this “lead duty holder” (which will normally be an organization, such as a landlord, housing provider, care provider or commissioner of services), there should be a named person who has responsibility for fire safety.

88.2 This person will not be the “Responsible Person” as defined by the Fire Safety Order, as the Responsible Person is the organization (typically a body corporate) who employs people to work in the premises (see Part C), but the person should hold a post within the “lead duty holder” that carries the authority to take appropriate actions in respect of fire safety.

88.3 Even where there is a single Responsible Person, such as a housing association, routine control of fire safety measures may be split. For example, maintenance teams may be responsible for repairs, and for routine testing and inspection of fire protection measures, while the letting department is responsible for ensuring that residents understand the conditions applied to alterations to their flats and receive

fire safety information on taking up occupation. Housing officers may then be responsible for routine fire safety inspections.

- 88.4 Where, in addition to the Responsible Person (the employer of staff who work in the premises), several other duty holders have significant control over fire safety measures in the premises, the situation is more complicated, and there is greater potential for significant matters to be overlooked (e.g. because every duty holder assumes that some aspect of fire safety management is the responsibility of another duty holder).
- 88.5 To avoid such a situation arising, in all existing specialized housing (and before any new specialized housing is first occupied by residents), there should be formal agreement between duty holders, documented in the form of a matrix, which clearly identifies the agreed responsibility for every key aspect of fire safety management. The allocation of responsibilities will vary, according to contracts and agreements between duty holders, but, other than in specialized housing with a single duty holder, no supported housing should be operated without completion of a matrix of this type.
- 88.6 The matrix of responsibilities for fire safety management should form part of the record of fire safety arrangements required by Article 11 of the Fire Safety Order. When a fire risk assessment is carried out, the fire risk assessor should take account of this matrix and verify that the agreed arrangements are still in place and working effectively. The matrix will also assist each duty holder in compliance with Article 22 of the Fire Safety Order, which requires that, where two or more duty holders exist for any premises, each duty holder must co-operate with other duty holders to co-ordinate the measures required for compliance with the Fire Safety Order.
- 88.7 A sample matrix is set out below.

Aspect of Fire Safety Management	Agreed Responsibilities				
	Owner/landlord	Housing Provider	Managing Agent or Managers (if different from housing provider)	Care Provider	Commissioner of Services
Lead duty holder <sup>12</sup>					
Building fire risk assessment					
Person-centred fire risk assessment (where appropriate)					
Testing of fire alarm system					
Maintenance of fire alarm system					
Testing of emergency lighting					
Maintenance of emergency lighting					
Testing of sprinkler system					
Maintenance of sprinkler system					
Testing of smoke vents					
Maintenance of smoke vents					
Testing of door release mechanisms					
Maintenance of door release mechanisms					
Testing of social alarm system					

<sup>12</sup> This is not intended to represent a legal interpretation of responsibility, but should merely reflect the agreement amongst duty holders in place for overseeing fire safety.

Aspect of Fire Safety Management	Agreed Responsibilities				
	Owner/landlord	Housing Provider	Managing Agent or Facilities Managers (if different from housing provider)	Care Provider	Commissioner of Services
Maintenance of social alarm system					
Routine housekeeping inspections, including checking fire doors, fire exit doors and condition of fire extinguishers, etc.					
Maintenance of fire doors					
Maintenance of fire extinguishers					
Maintenance of rising mains					
Maintenance of lightning protection system					
Provision of fire safety information to new residents					
Ongoing engagement with residents regarding fire prevention					
Ongoing engagement with residents to remind them of fire procedures					
Fire drills (if applicable)					
Maintaining a record of the fire safety arrangements					
Ensuring that fire procedures are up to date					
Liaison with local fire and rescue service crews					
Training of staff					

Aspect of Fire Safety Management	Agreed Responsibilities				
	Owner/landlord	Housing Provider	Managing Agent or Managers (if different from housing provider)	Care Provider	Commissioner of Services
Inspections during contractors' works					
Provision of information to outside contractors					
Recording false alarms					
Holding of relevant records re testing maintenance, training, drills, etc.					

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## 89. Access to competent advice on fire safety legislation

89.1 There is a responsibility under the FSO for duty holders to appoint a competent person to provide safety assistance, i.e. guidance on the fire safety measures required by the FSO and how they should be implemented.

89.2 However, this does not preclude an organization from obtaining assistance with this from an appropriately qualified and experienced consultant, or another suitable source, to support the duty holder in fulfilling this role. Anyone providing this service to a duty holder must be fully familiar with fire safety requirements in specialized housing.

## 90. Engaging with residents

90.1 It is important that there is engagement with residents to communicate a number of vital fire safety messages, including:

- how they can prevent fires in their own accommodation and in the common parts;
- the importance of maintaining their building secure (making sure doors close behind them when they enter or leave);
- that they should never store or use petrol, bottled gas, paraffin (e.g. for heaters) or similar flammable substances in their accommodation or in shared areas;
- what action they should take if they discover a fire;
- how to respond to fire alarm signals in their own accommodation;
- in sheltered and extra care housing, what is expected of residents if the fire alarm sounds in the common parts;
- why they should not interfere with the fire alarm system, for example to silence the system;
- how they can ensure that they can make their way safely from their accommodation and how to exit the building once they have left their accommodation;
- in sheltered and extra care housing, what 'stay put' means if there is a fire elsewhere in the building;
- in sheltered housing, the limitation in assistance that will be provided in the event of fire (e.g. it should be made clear in "welfare packs" that "assistance" to residents may not include assistance with evacuation in the event of fire);
- what they must do to safeguard communal escape routes, especially taking care to make sure fire doors self-close properly and are not wedged, tied or otherwise held open;
- what the policy on the use of common parts requires of them;
- how they can avoid inadvertently damaging the building's fire protection when making changes to their accommodation (e.g. in leasehold flats);
- how they can report essential repairs needed to fire safety measures in their accommodation and elsewhere in the premises.

- 90.2 In supported housing, where there is a close relationship between carers and residents, information on fire safety is often best imparted to residents by face-to-face discussion with them. In sheltered and extra care housing, residents' handbooks are traditionally one way to communicate basic fire safety advice to new residents. Similarly, many organizations use their website to convey information of this nature to their tenants. Where appropriate, and subject to the policy on use of the common parts, this can be reinforced with notices displayed in the building.
- 90.3 However, specifically targeted campaigns of leafleting and other initiatives to promote fire safety may be necessary to keep the message fresh in people's minds, up to date and relevant to their particular circumstances. The fire and rescue service can assist with this, joining with landlords, other Responsible Persons and other agencies on initiatives to offer free home fire safety checks to residents.
- 90.4 General advice to give to residents on domestic fire safety and preventing fires in the home is available from <https://www.gov.uk/firekills>. 'Protect yourself in your rented home', which is guidance on electrical safety, is also available, in both printed and online form, from Electrical Safety First.
- 90.5 It is important that the needs of non-English speaking residents are taken into account. Fire safety information in a number of alternative languages is available from some fire and rescue services and can be downloaded from their websites.
- 90.6 Appendix 7 to this guide also contains suitable content for basic advice to include when communicating with residents. Basic fire action notices are often the simplest means of conveying to residents the actions they should take in the event of a fire, but might be inappropriate in some supported housing, in which there is a need to avoid the ambience of an institution.
- 90.7 Appendix 8 contains templates for simple fire action notices applicable both to situations where a 'stay put' policy applies and situations where – by virtue of a communal fire alarm system – a simultaneous evacuation strategy applies (e.g. in supported housing).
- 90.8 It is vital that residents have a means to contact someone from the organization who can respond quickly if the fire alarm system is activated when there are no staff on-site (e.g. in most sheltered housing, outside normal working hours). This should be displayed prominently adjacent to the fire alarm control and indicating equipment.
- 90.9 While engagement with residents will normally form part of the role of the duty holders for whom this guide is intended, there is a role for any agency that engages with residents in specialized housing to consider the safety of the residents from fire. Representatives of any organizations who, in their official capacity, visit residents in their own accommodation should be instructed to identify obvious fire hazards and, more generally, residents who are particularly at risk from fire, such that there is a need for follow-up action (e.g. by the fire and rescue service); this is an integral part of the person-centred approach to fire safety of individual residents.
- 90.10 The Care Certificate, which is a set of identified standards to which health and social care workers adhere in their daily working life. It is designed with the non-regulated workforce, such as domiciliary care workers, home care workers and

support workers in mind. Standard 13.7 of the Care Certificate specifies that persons should be able to promote fire safety, including an ability to explain how to prevent fires from starting or spreading, and what to do in the event of fire.

- 90.11 A training package on fire safety for vulnerable residents, intended for **anyone** who engages with vulnerable residents, has been jointly developed between London Fire Brigade and the TSA. The training package is available for free download at: <http://www.tsa-voice.org.uk/e-learning>

## 91. Instruction, training and information for staff

- 91.1 Anyone regularly working in specialized housing needs to be provided with instruction, training and information relating to the fire safety measures in the building and the procedures they should follow in the event of fire. This should relate to the activities they undertake.

- 91.2 It is, however, important that the extent of such training and instruction, and the scope of the information provided, should reflect the relatively simple nature of some specialized housing, such as most supported housing, in which means of escape are particularly simple.

- 91.3 For most employees, all that is required is basic fire awareness training. This will need to ensure that they:

- are aware of fire hazards that might occur; in most supported housing, where there is a right of access to residents' accommodation, consideration of fire hazards extends to hazards within the residents' accommodation.
- know how to prevent fires
- recognize the importance of good housekeeping
- know when and how to use any fire extinguishers present
- understand what to do if they discover a fire
- know how to escape from the premises if they encounter a fire
- are aware of how their actions might adversely affect the fire safety measures present in the building (e.g. by propping open fire doors).
- are able to spot obvious deficiencies in fire safety measures (e.g. a damaged fire door) and have a suitable reporting process.

- 91.4 Employees need to receive instruction as soon as they start work for the organization. Instruction should be repeated at appropriate intervals to ensure people remain vigilant and prepared.

- 91.5 More extensive training will be required for staff with a role to play in responding to alarm signals. It is important that they are fully conversant with the fire procedures in the emergency plan (see below).

- 91.6 While fire drills and practice evacuations are used in many commercial buildings to reinforce fire awareness training, it is neither practical nor necessary to carry them out in sheltered and extra care housing, even if there is a communal fire alarm system. In large sheltered and extra care housing schemes incorporating extensive communal amenities, such as hairdressers, cafeterias and shops, fire drills may be



necessary. However, these will still only apply to people present in the common parts. Residents within their flats would not be expected to take part in fire drills.

- 91.7 In supported housing, fire drills may be of benefit, and the need for drills should be considered in the fire risk assessment. Fire drills in these premises may result in more reliable response by residents who can self-evacuate. Fire drills will also identify any difficulties in evacuation of residents and will enable assessment of the likely evacuation time.
- 91.8 Additional training may be required where in-house staff monitor fire safety as part of routine visits and inspections. Those tasked with carrying out and/or reviewing fire risk assessments will need appropriate training to ensure satisfactory competence.

## 92. Preparing for emergencies

- 92.1 It is a requirement of the FSO that there should be a suitable emergency plan for the premises. In supported housing, the emergency plan will primarily comprise a simple fire evacuation procedure. However, where residents in supported housing need assistance with evacuation, there should be a personal emergency evacuation plan ('PEEP') for each such resident. The minimum number of staff that must be available in the event of fire should be sufficiently understood, such that suitable interim measures are put in place when the numbers are not achieved
- 92.2 In sheltered and extra care housing, emergency plans will need to be more detailed. The role of scheme managers, carers in extra care housing and others (when present) in responding to fire alarm activations received from flats (normally through the social alarm system) needs to be clearly defined. Particular consideration should be given to the associated risks from entry into a flat where there might be a fire. This does not imply that, in sheltered and extra care housing, staff are always present to respond to alarm signals or assist residents.
- 92.3 The role of the scheme manager, carers and others in assisting with the rescue of the occupants of flats also needs to be considered. Whether through physical or mental disability, some residents may have difficulty in leaving their flat quickly. A resident's needs for support are usually assessed when they take up occupation, and this should include their ability to escape unaided in a fire. As with other aspects related to their welfare, this should be reviewed as a matter of course as a person's circumstances change.
- 92.4 In sheltered and extra care housing schemes, there will be reliance ultimately on rescue by the fire and rescue service in the event that residents cannot escape by themselves. While detailed PEEPs need not be prepared for every resident, information should be collated in respect of any resident with particular cognitive, mobility or other issues affecting their ability to respond to fire alarm signals or attempts to make contact with them by fire-fighters, or to escape.
- 92.5 This information should be made available to the fire and rescue service on arrival at the premises by keeping it in a 'premises information box', which can only be unlocked by the fire and rescue service, or unlocked remotely by a Telecare ARC, at the main entrance. Details of any residents using oxygen or other medical gases are also usually kept with this information. (It is important that operational fire-fighters are aware of arrangements for provision of information.) Consideration can also be given to the provision of a plan adjacent to the fire alarm control panel,

showing the locations of residents who would need instruction or assistance to evacuate their own flat (e.g. by means of a red stick-on dot). It is essential that such information is kept up to date to avoid the provision of incorrect information to fire and rescue service crews.

- 92.6 Fire action notices will not normally be necessary in supported housing, but should normally be provided in sheltered and extra care housing. Standard fire action notices may not be appropriate; any fire action notice should be relevant to the specific building. If a fire action notice is to be displayed, it would be good practice to place it in a location where it will be viewed routinely by people entering the building, e.g. by the main entrance or, where relevant, by the controls inside a lift
- 92.7 In most specialized housing, there will be a communal fire alarm system, in which case the fire action notice should reflect the presence of this system and clearly state the action required of residents in response to an alarm. There should be contact details so that residents can arrange for the system to be silenced and reset as quickly as possible in the event of a false alarm. It is vital that this response is as short as possible – a prolonged delay could result in residents interfering with the system in an effort to stop the noise of the alarm sounding and re-entering their accommodation.
- 92.8 In large, more complex specialized housing premises, it can be of great assistance to the fire and rescue service to keep plans on the premises detailing information on the layout of the building and its services. This can be helpful at the time of an incident in dealing with the emergency. Again, use of a 'premises information box' at the main entrance is one way to achieve this.

### **93. Controlling hazardous activities**

- 93.8 Unlike many other types of building, there are few activities that take place within the common parts of specialized housing that are inherently hazardous. The exception is building and engineering works, whether alterations or repairs.
- 93.9 Irrespective of whether they are undertaken by in-house personnel or a contractor, there is potential during such works, not only to start fires or create new hazards, but also to impair fire safety measures, even if only temporarily.
- 93.10 Strict obligations should be placed on those undertaking works to implement appropriate fire precautions when carrying out works and to avoid issues such as those above. Incorporating conditions within contracts is one common means of achieving this, but this should also be reinforced by scrutiny of method statements and by inspections during the course of the works.
- 93.11 This is often applied rigorously to major projects, but less so in the case of small works and maintenance. However, the latter may still involve the potential to create hazards and it is important that account is taken of this.
- 93.12 Of most concern is the potential for fires to be started when 'hot work' is undertaken. It is vital that control is exercised over such works. Usually, this is achieved by adopting a 'permit to work' system. This places obligations on those carrying out the work to inspect the areas in which work is taking place – both before and after the work – and to take all necessary precautions, including provision of accessible fire extinguishers.

**Examples of new hazards or impairments to fire safety measures that can arise from building works include:**

- Making holes in compartment walls and floors.
- Removing stairway doors required to protect the escape routes in order to allow free access for delivering materials.
- Parking over fire hydrants.
- Placing site huts too close to the building.
- Leaving gas cylinders inside the building overnight to avoid the need to store them properly away from the building.
- Blocking access to a fire main inlet.
- Leaving combustible building materials in common parts.
- Opening up parts of the structure without providing suitable fire resistant hoarding to separate work areas from occupied parts.

93.13 Further advice on fire safety during construction work is available from the Health and Safety Executive (HSE) and the Fire Protection Association (FPA).

93.14 In supported housing, a number of the above potential issues will not arise, given the simple nature of the premises. However, there is still a need for suitable control over contractors' activities, particularly when there are residents on the premises. Nevertheless, control may be less formal than in the case of sheltered and extra care housing.

#### **94. Inspection, testing and maintenance of fire safety systems and equipment**

94.1 All fire safety systems and equipment need to be maintained in effective working order. It is therefore necessary to have in place arrangements for routine inspection, testing, servicing and maintenance.

94.2 Some of the inspection and testing can be carried out by in-house staff, provided they are suitably competent. However, it is anticipated that duty holders will need to employ suitable contractors to carry out maintenance. Again, it is essential that these contractors are competent. Various third party certification schemes are available that provide confidence that listed companies have been assessed initially in relation to their capability against a recognized standard, and that this is continually monitored through surveillance visits (see Section 73).

94.3 Where elements of the testing are carried out by in-house staff or other non-specialists, it is important that there is access to a suitable contractor to follow up and address deficiencies identified through the testing. In particular, it is important to attend site at short notice to carry out emergency repairs resulting from the tests, e.g. in the event that a fire alarm system will not reset.

94.4 The following details the basic requirements for routine attention in relation to the various fire safety systems and equipment commonly found in specialized housing.

## Emergency Escape Lighting

- 94.5 Unless the emergency lighting is of the self-testing type, there will be a need to test each fitting periodically. In most cases, the testing involved comprises the following.
- A monthly, functional test using a suitable test facility – the purpose of this is simply to establish, by switching from the normal to the standby supply, that the fitting has not failed. This is a quick, simple test that can easily be undertaken by, for example, scheme managers, housing officers or care staff, or indeed as part of value added service from contractors who visit regularly.
  - A full duration discharge test once a year – the purpose of this is to confirm that the batteries are still capable of supplying the fitting for long enough.
- 94.6 Care should be taken not to leave a building entirely without escape lighting while batteries recharge after a test.
- 94.7 Further guidance on testing and servicing emergency escape lighting systems can be found in BS 5266-8.

### Smoke ventilation

- 94.8 Systems of automatically opening vents, or vents electrically controlled but manually operated, should be subject to routine testing and periodic servicing. AOVs and electrically operated OVVs should be tested once a month for correct operation using the manual controls provided. Again, this is a simple test that can be undertaken readily by non-specialists.
- 94.9 Testing smoke detectors and controls associated with AOVs should take place at least once a year, and in accordance with the manufacturer's instructions.
- 94.10 Other systems of smoke control – including smoke extract systems and pressurisation systems – should again be tested and serviced periodically in accordance with the manufacturer's instructions. This will normally be at least annually, but may involve monthly or more frequent functional tests where the systems are intended to protect the means of escape. It is important that those servicing such systems are familiar with the fire engineering performance parameters used in the design of the system.
- 94.11 Further guidance on testing and servicing of smoke control systems can be found in BS 9999.

### Fire extinguishing appliances

- 94.12 Where fire extinguishers and fire blankets are provided, they should be inspected and maintained every 12 months. This is a task for suitably trained specialists. However, there is a role for others, such as staff in the premises, to be alert to any missing or damaged equipment as part of normal walk-rounds or formal fire safety inspections and to report this for action. A simple visual check of fire extinguishers should be carried out on a monthly basis.
- 94.13 Further guidance on inspection and maintenance of fire extinguishing appliances can be found in BS 5306-3.

## **Fire detection and alarm systems**

- 94.14 Fire detection and alarm systems should be subject to routine testing and servicing. There are two parts to this, regular testing and periodic servicing.
- 94.15 A simple functional test should be undertaken, once a week, by operating a manual call point. This can readily be carried out by non-specialists, e.g. scheme managers, housing officers, care workers and in-house maintenance teams. The aim of this test is simply to check that the system is functional. It is not intended that this test be used to confirm audibility of the alarm, for example. However, where operation of this system is associated with, say, release of devices holding open fire doors, or releasing electrically locked fire exits (where permitted), the weekly test should be used to check the function of these ancillary actions.
- 94.16 Where the fire strategy for the building relies on remote transmission of signals from detection within residents' accommodation to an alarm receiving centre (ARC), at the time of the weekly fire alarm test, transmission from the accommodation of at least one resident should be tested to ensure that the signal is received correctly at the ARC. This test should be carried out from the accommodation of a different resident in each successive week, so that, over a period of time, transmission from all residents' accommodation is tested. There is no maximum time over which this should be carried out (i.e. if there are 30 flats in a sheltered housing scheme, it will take 30 weeks for transmission from all flats to be tested.)
- 94.17 Periodic servicing should be undertaken at least once every six months.
- 94.18 Further guidance on testing and servicing of fire alarm systems can be found in BS 5839-1.

## **Smoke and heat alarms**

- 94.19 The need for regular testing applies equally to the smoke and heat alarms provided for early warning of fire within the flats in sheltered and extra care housing and in small supported housing premises. Many residents will be able to carry out this test themselves. Smoke and heat alarms should be tested every month, using the test button on these devices.
- 94.20 Those engaging with residents in sheltered or extra care housing can easily check for signs that a tenant has interfered with a smoke alarm or otherwise disabled it. Damage to the device and evidence of battery removal can often be readily visible. In addition, a test of a smoke alarm could be a value-added service carried out by any contractor undertaking a routine visit for the purposes of carrying out a repair or, for example, during annual gas safety checks.
- 94.21 Further guidance on testing smoke alarms can be found in BS 5839-6.

## **Fire dampers**

- 94.22 Fire dampers, where provided in communal ductwork or rubbish chutes, should be subject to inspection and test periodically to ensure that they will still operate in a fire. Depending on ease of access, this should be undertaken at least once every two years for those operated by fusible links. For those that are spring operated, this should take place every year.

94.23 Further guidance on testing of fire dampers can be found in BS 9999.

#### **Sprinkler and watermist systems**

94.24 Sprinkler systems and watermist systems, where provided, should be regularly tested and serviced periodically. It is unlikely that any staff in the premises will be capable of performing this work. Suitable contractors or maintenance staff will need to be employed for the work.

94.25 Domestic/residential sprinkler and watermist systems should be maintained annually. Sprinkler systems installed in accordance with BS EN 12845 (e.g. in commercial areas of some premises) should be subject to weekly test and quarterly maintenance. Further guidance on maintenance of sprinkler systems can be found in BS 9251 or, in the case of systems installed in accordance with BS EN 12845, within the recommendations of that standard. Further guidance on testing and servicing of watermist systems can be found in BS 8458.

#### **Fire mains**

94.26 Fire mains need to be inspected every six months and tested every 12 months. Inspections largely involve simple checks to confirm that the outlets are not damaged, and that padlocks and straps on the landing valves are still in place. This could readily be incorporated within formal fire safety inspections or fire risk assessment reviews. Testing will involve pressurising the main, and will, therefore, normally require a specialist contractor to carry it out.

94.27 Further guidance on testing and maintenance of fire mains can be found in BS 9990.

#### **Fire-fighting lifts**

94.28 Lifts specifically intended for use by fire-fighters (“fire-fighting lifts”) need to be subject to tests and maintenance on a regular basis. This will involve weekly operation of fire-fighters’ switches, monthly inspections and annual testing and maintenance of the lifts.

94.29 Further guidance on testing and servicing of fire-fighting lifts can be found in BS 9999.

### **95. Inspections and repairs of other fire safety measures**

95.1 Other fire safety measures such as fire-resisting doors also need maintenance. The following details the basic requirements for routine attention in relation to these measures.

#### **Fire-resisting doors**

95.2 Good practice is to inspect timber fire-resisting doorsets on a six monthly basis as part of a programme of planned preventive maintenance. These inspections are aimed at identifying defects such as:

- missing or ineffective self-closing devices;
- damaged doors or frames;

- removal of locks without suitable repairs to the integrity of the doors;
- poorly fitting doors caused by distortion or shrinkage, or as a result of wear and tear;
- newly fitted, but inappropriate, door furniture;
- doors which have been replaced using non-fire-resisting types.

95.3 Entrance doors to residents' accommodation should be included within this programme.

95.4 The defects highlighted above will often be obvious to those carrying out fire safety inspections and, indeed, it is straightforward to train others to be alert to them. Where defects are reported, it is important that action is taken within an appropriate timescale and that they are not simply left to the next six-monthly inspection.

95.5 Further advice on routine inspection and maintenance of fire-resisting doors can be found in BS 8214.

### **Fire-separating construction**

95.6 Routine inspection of fire-resisting walls and floors cannot be so readily achieved. Nevertheless, damage to walls or signs of unauthorised work – including DIY by residents – are likely to be obvious when within any common corridors, lobbies and stairways. Fire safety inspections and fire risk assessment reviews also offer opportunities to inspect other areas such as riser cupboards, plant rooms and so forth.

95.7 Other opportunities, such as when flats become vacant or change tenancy, should be used to inspect the condition of compartmentation within the accommodation and to undertake fire safety improvements.

95.8 Where the fire strategy for the premises relies on compartmentation within roof voids (e.g. in sheltered and extra care housing), the integrity of compartment walls within roof voids should be checked annually, unless it is certain that, in the preceding 12 months, no work that could impair the integrity of the compartment walls (e.g. running of new cables or services) has been carried out. Although there should be a check on these compartment walls during fire risk assessments, such checks will normally be carried out only on a sampling basis, so separate, more thorough inspections may need to be carried out. After any work that might affect compartmentation in roof voids has been carried out, a check should be made to ensure that, for example, new penetrations in compartment walls have been fire stopped.

### **External escape routes**

95.9 Where external routes, particularly involving metal escape stairways, are part of the means of escape, they should be subject to periodic inspection and maintenance. Fire safety inspections should include visual checks to look for:

- evidence of damage or corrosion;
- build-up of moss or other slip hazards;
- trip hazards or obstructions on the stairway.

- 95.10 Survey by a specialist, at least once every three years, should also be included to ensure that the stairway still has suitable structural integrity.

### **Manually openable smoke vents**

- 95.11 Windows and other non-electrical means provided for venting smoke should be opened on a regular basis (e.g. at least once a year), to ensure that they open freely and have not become seized.

## **96. Monitoring the common parts and being alert to new hazards**

- 96.1 A formal fire safety inspection of specialized housing is a common means of identifying issues relating to fire prevention and maintenance of fire safety measures. However, many of the day-to-day activities that take place provide continual opportunities to monitor fire safety in the common parts. Ensuring that scheme managers, housing officers, repair teams, cleaners, care workers and any other staff or regular contractors are aware of what to look out for can significantly impact on the standard found in a particular building.

- 96.2 The extent to which formal fire safety inspections need to be carried out will vary. It depends on how successfully standards are being maintained.

- 96.3 Those undertaking inspections should also be alert to new hazards that might arise from time to time, e.g. use of extension leads from flats to charge a mobility scooter brought in by a visitor.

## **97. Reviewing and auditing fire safety standards**

- 97.1 There is an obligation under the FSO to review the fire risk assessment. Many organizations also undertake audits as part of the process of ensuring compliance with their legal obligations and demonstrating due diligence in the management of their housing stock.

- 97.2 Audits and formal reviews need not take place every time there is a change of resident. Nor, indeed, will it be necessary to do so every time minor works take place. Good practice is to encourage a process of dynamic risk assessment by all those responsible for fire safety. This way, people continuously think about fire safety during their work activities.

- 97.3 However, periodically, and where warranted by the nature of the changes that have taken place, a formal review needs to be carried out and should be recorded. Periodic reviews should always include consideration of the action undertaken in response to the previous risk assessment.

### **Checklists for fire safety inspections should confirm that:**

- combustible waste or storage is not present in corridors, lobbies, stairways and chute rooms;
- any notice boards are not overflowing with outdated messages and posters;
- other infringements of the policy on the use of the common parts are not taking place;
- doors to residents' store rooms, electrical cupboards, plant rooms, bin stores and other ancillary rooms are not being left or held open;



- front doors and other entrance and exit doors are closing properly;
- where provided, fire extinguishing appliances are not missing, discharged or damaged;
- there are no signs of damage to fire-resisting walls, doors and glazing between residents' accommodation and the common parts;
- vents required for smoke control have not been tampered with, forced open and damaged (e.g. by residents seeking to air stuffy atmospheres or to remove the smell from illicit smoking) or blocked up to prevent draughts;
- fire exit signs or fire action notices are not missing or defaced;
- fire detectors, call points and sounders are still in place and have not been damaged, covered over or interfered with in anyway;
- fire main outlets, where provided, are not damaged or obstructed;
- emergency light fittings are working normally e.g. illuminated signs are still lit.

## 98. Controlling alterations so that they are not detrimental to fire safety

- 98.1 Alterations and improvements to specialized housing can be detrimental to fire safety if careful thought is not given to the possible impact they might have. Problems can arise, not only when large-scale refurbishment programmes are carried out, but also during minor work that residents themselves might undertake.
- 98.2 Processes should be in place to scrutinize alterations and building work within common parts that could have an effect on fire safety. It is important that approval under the Building Regulations is obtained where relevant (see Part C).
- 98.3 Tenancy agreements should also restrict the works that tenants can undertake without first seeking permission. Leaseholders should also be suitably constrained from making detrimental changes by virtue of the conditions within their lease.

### Examples include:

- a leaseholder changing their flat entrance door, but not replacing it with a suitably fire-resisting and self-closing door;
- a resident installing a new bathroom suite, but not ensuring that breaches of riser walls created for new drains are fire-stopped afterwards to maintain fire separation to the common riser;
- a resident removing the doors and walls to the kitchen and lounge to create an open plan living area, but in so doing making all the bedrooms inner rooms, and possibly impairing protection to the common parts;
- a utility company installing new gas supplies to flats and creating the necessary ventilation to gas meters by unprotected openings into common corridors and stairways;
- a landlord adding a pitched roof to a flat roofed block without providing suitable cavity barriers;
- residents fitting non-condensing tumble dryers with holes through fire walls and doors for vent pipes;
- a landlord replacing windows and using sealed units, which cannot be opened to vent smoke from common parts;

- a contractor installing a new false ceiling without transfer grilles to allow smoke to reach existing permanent vents;
- a landlord undertaking a project to fit rain screen cladding to an existing block of sheltered or extra care housing without considering the potential for a fire from a flat to travel upwards through the cavity behind the cladding to spread into the flats above;
- the installation of downlighters in ceilings – which are not of a closed back ‘fire-rated’ design and which have not been fitted with intumescent fire hoods or covered by an insulation support box – therefore diminishing the fire resistance of the ceiling;
- a resident undertaking DIY to fit additional socket outlets and, in so doing, damaging the protection to the timber frame construction.

## 99. Being alert to possibilities of improving fire safety standards

99.1 Alterations and improvements to specialized housing can also provide ideal opportunities to upgrade the fire safety measures, often at minimal extra cost. For example, when lift replacement becomes necessary, upgrading the lift to evacuation lift standard, particularly in relation to power supplies, will significantly improve the ability to evacuate mobility impaired residents.

## 100. Maintaining records

100.1 It is good practice to keep records that show that people have received fire training and that inspection, testing and maintenance has been carried out on fire safety systems and equipment. Such records demonstrate due diligence in the event that fire safety is found wanting, either as a result of routine audit or following scrutiny after a fire.

100.2 Various methods can be used to keep records, from the commonly-used log book to electronic devices used to capture data.

100.3 In new buildings, there is an obligation under the Building Regulations 2010 to pass on information on the fire safety design to those who have responsibility for managing the building and meeting obligations under the FSO (see Part C). This information is usually contained in a fire safety strategy developed during the building project to support the approval under the Building Regulations.

100.4 It is possible that this may have applied to the larger, more complex blocks of sheltered or extra care housing built recently. However, for most existing sheltered housing and supported housing, it is unlikely that any such information will have been documented.

100.5 There is an obligation under the FSO to maintain records of the fire safety arrangements in a building. This is particularly important so that those tasked with managing fire safety are aware of the fire safety features incorporated within the design of the building. It is important so that fire safety measures can be suitably maintained on an ongoing basis. It also enables duty holders to ensure that these measures are preserved and protected during future alterations to the building.

100.6 A record of the fire safety arrangements can often take the form of a simple plan of the building showing the various fire safety measures. Such plans might be appropriate for some large or complex blocks of sheltered or extra care housing, but are rarely likely to be warranted for other specialized housing premises. In

practice, there will be no need for a specific record of the fire safety arrangements in many premises, particularly if the fire safety measures are detailed sufficiently in the fire risk assessment. Generic policies and procedures covering maintenance arrangements and so forth would then suffice to meet the FSO's requirements in this respect.

- 100.7 In some large, complex specialized housing premises, it might be appropriate to prepare a fire safety manual as a record of the fire safety arrangements. This might apply in the case of, say, a large extra care sheltered housing scheme – particularly where different organizations are involved in the running of the building and provision of care. Guidance on the content of a fire safety manual can be found in BS 9999.

## **101. Liaising with agencies responsible for fire safety**

- 101.1 Fire and rescue services routinely undertake visits to certain premises in order for operational crews to become familiar with the features of the building, including:

- the access for fire appliances
- availability of water for fire-fighting
- the provision of any special facilities for their use, such as fire-fighting lifts and fire mains.

- 101.2 Most supported housing would not warrant such a visit. However, crews may visit sheltered and extra care schemes. Whether any particular scheme needs to be visited is a matter for the discretion of the local fire and rescue service. Nevertheless, such visits should be welcomed, as pre-planning for an emergency in this way can be invaluable.

- 101.3 The fire and rescue service are also able to assist in reinforcing the fire safety message to residents. Home fire-safety checks are a key component of the 'community fire safety' initiatives of fire and rescue services and are available to residents of any domestic dwelling.

# Appendix 1: Summary of fire safety measures for sheltered, extra care and supported housing

This appendix summarizes the fire protection measures recommended in this guide for sheltered housing, extra care housing and supported housing. Measures recommended for compliance with the Fire Safety Order are set out separately from recommendations that are regarded as good practice, but that are not required for compliance with the Fire Safety Order. In each case, the recommended measures are related only to fire protection within the building; the measures are not concerned with prevention of fire, person-centred fire safety measures or management of fire safety. For each recommendation, the part, section or paragraphs of this guide that provides the detail of the recommendation is shown in brackets.

## Measures recommended for compliance with the Fire Safety Order in sheltered and extra care housing

- A fire risk assessment must be carried out. The fire risk assessment must identify the measures required as part of the fire strategy for the building. The fire risk assessment does not address safety of residents from a fire within their own flat. Resident characteristics are considered only in generic terms; the building fire risk assessment does not consider the individual characteristics of each and every resident. However, the risk assessment needs to ensure that information on residents who cannot self-evacuate is available to the fire and rescue service. (See Part E)
- The scope of the fire risk assessment is primarily limited to the common parts of the building (i.e. not the individual flats), but includes consideration of the adequacy of compartmentation to support a “stay put” policy (including compartmentation within roof voids), the fire performance of flat entrance doors and the provision of monitored smoke detection within the hallway of each flat. (See Section 48)
- Compartmentation between each flat, and between flats and the common parts, should generally afford 60 minutes’ fire resistance. Compartment walls on the top floor should extend through the roof void to the roof of the building. (See Section 76.)
- Flat entrance doors should be self-closing and, ideally, afford 30 minutes’ fire resistance, but notional FD30 doors designed to satisfy old standards for 30 minutes’ fire resistance may continue to be accepted, subject to a risk assessment, particularly in smaller schemes. (See paragraphs 78.9-78.20.)
- Surface finishes should be Class 0. (See paragraphs 77.88-77.93.)
- Smoke control arrangements should be sufficient to support means of escape. (See Section 79.)
- Travel distance in common parts should be limited in accordance with the recommendations of this guide. (See paragraphs 78.3-78.8.)
- Stairways should be enclosed in 30 minutes’ fire-resisting construction. (See paragraphs 77.63.)

- 'FIRE EXIT' signs should be provided where there is more than one fire exit route and/or where fire exit routes are not obvious or are complicated. (See Section 81.)
- Emergency escape lighting should be provided throughout escape routes, other than in small blocks of no more than two storeys with adequate and reliable levels of borrowed lighting. (See Section 82.)
- Within each flat, there should be at least one smoke detector in the hallway. Smoke detector(s) in each flat should not give any other warning beyond the flat, but should be monitored by an on-site scheme manager (if present) and by an alarm receiving centre at all times when a scheme manager is not present. Monitoring by a Telecare system, whereby two-way speech can be established between the alarm receiving centre and each flat, is preferred, so that false alarms can be filtered. (See paragraphs 83.21-83.31.)
- In schemes with communal facilities, such as lounges, laundries, etc, there should be a communal fire alarm system, but this should not give an evacuation signal within the flats. (See paragraphs 83.22-83.38.)
- Fire extinguishing appliances are not required in communal corridors and stairways but should be provided in plant rooms and communal facilities, such as lounges, kitchens, laundries, etc. (See Section 85.)

#### **Measures recommended as good practice in sheltered and extra care housing**

- All new premises should be protected by an automatic sprinkler or watermist system. (See Section 84.)
- A Category LD1 fire detection system should be the ultimate objective for every flat, so that all rooms are protected with automatic fire detectors (other than toilets, bathrooms and shower rooms). This level of protection should be provided in refurbishment or electrical re-wiring projects and when existing smoke detection in flats reaches the end of its natural life. (See paragraphs 83.22-83.24.)
- Travel distance between every flat entrance door and the nearest door to a final exit, stairway door or cross-corridor door should, ideally, not exceed 7.5m, but, subject to risk assessment, this could be extended to around 10m. (See paragraphs 78.5-78.8.)

#### **Measures recommended for compliance with the Fire Safety Order in supported housing**

- A fire risk assessment must be carried out. The fire risk assessment must identify the measures required as part of the fire strategy for the building. Although the fire risk assessment does not address safety of residents from a fire within their own accommodation, the ability of each resident to evacuate in the event of fire needs to be considered, so that it can be ensured that the emergency plan includes adequate arrangements for evacuation in the event of fire. For this purpose, the number of staff available at all times of day or night needs to be considered. (See Part E.)
- The scope of the fire risk assessment is primarily limited to the common parts of the building (i.e. not the residents' individual accommodation), but includes consideration of protection of common escape routes against a fire in a resident's accommodation. This necessitates consideration of the fire performance of doors to residents' accommodation and the provision of smoke detection within residents' accommodation. Roof voids need to be inspected as part of the assessment. (See Section 48.)
- Existing lath and plaster ceilings that are in good condition are satisfactory in properties of up to three storeys. In properties of more than three storeys floor/ceiling construction

should be upgraded if necessary to achieve a fire resistance of 30 minutes. (See paragraphs 76.24.)

- Fire-resisting doors are not generally required in single storey premises, unless prolonged evacuation times are anticipated. In low risk two and three storey premises, solid, well-fitting doors are likely to be satisfactory. In other two or three storey properties, notional FD30 doors designed to satisfy old standards for 30 minutes' fire resistance are generally acceptable for protection of common parts. In three storey houses with prolonged evacuation times, notional FD30 doors should be upgraded by fitting intumescent strips and smoke seals, or new certificated FD30S doors should be provided. (See paragraphs 80.13-80.23.)
- For doors in single storey, and low risk two storey, premises, there will not normally be a need to fit self-closing devices to doors. In other two storey properties, and low risk three storey properties, self-closing devices should be fitted to doors to any kitchens or lounges that open directly onto a protected stairway. In three storey properties that are not low risk, all fire-resisting doors that open onto a protected stairway should be self-closing. (See paragraphs 80.13-80.18.)
- In supported housing that resembles a single-family dwelling, there will be no requirement for 'FIRE EXIT' signs. However, signs might be needed in some larger supported housing with alternative fire exit routes that are not in normal use. (See Section 81.)
- In single storey, and small two storey, premises, similar in size and layout to a single family dwelling, no emergency lighting is likely to be necessary. However, emergency escape lighting should generally be provided within the escape routes of other supported housing premises. (See Section 82.)
- A fire detection and alarm system, complying with the recommendations of BS 5839-6 for a Category LD1 system, should be provided. There will normally be no need for fire detection within roof voids, unless these contain specific, significant fire hazards. Domestic smoke alarms may be used in single storey premises and premises with no more than four bedrooms. In other premises, a Grade A system, as defined in BS 5839-6, with control and indicating equipment, fire detectors and fire alarm sounders, should be provided. However, if existing premises of no more than two storeys are currently provided with sufficient mains-operated smoke alarms (with standby supply), these need not be replaced with a Grade A system until the smoke alarms reach the end of their useful life. (See paragraphs 83.1-83.15.)
- In most premises, portable fire extinguishers and fire blankets should be provided only for use by staff who have been trained in their use. (See Section 85.)
- Sprinkler or watermist protection might be necessary if there are not sufficient staff available at all times to ensure safe and timely evacuation of residents. (See Section 84.)

### **Measures recommended as good practice in supported housing**

- Sprinkler and watermist protection is recommended for high risk supported housing. (See Section 84.)

# Appendix 2: Steps in a building fire risk assessment

- A2.1 The scope of the building fire risk assessment is defined by the fire risk assessment Type (see Section 49). However, for compliance with the FSO, the default fire risk assessment is a Type 1 assessment, which is concerned only with the common parts, measures to protect the common parts from fire (including a fire in residents' accommodation) and measures to protect residents in accommodation beyond that in which a fire starts (see also paragraphs 2.9-2.11).
- A2.2 Some guidance – such as that produced by the Department for Communities and Local Government (DCLG) in support of the FSO– suggests five steps in a fire risk assessment.
1. Identify fire hazards (sources of ignition, fuel and oxygen).
  2. Identify people at risk (people in and around the premises and people especially at risk).
  3. Evaluate the risk of a fire occurring and the risk to people from fire, remove or reduce fire hazards. Remove or reduce the risks to people by means of:
    - detection and warning;
    - fire-fighting;
    - escape routes;
    - lighting;
    - signs and notices;
    - maintenance.
  4. Record significant findings and action taken. Prepare an emergency plan. Inform and instruct relevant people. Co-operate and co-ordinate with others and provide training.
  5. Keep assessment under review and revise where necessary.
- A2.3 The British Standards Institution publicly available specification, PAS 79, sets out the following nine steps, which amplify, but do not conflict with, the five steps set out in government guides.

## **Step 1: Obtain information**

The following information will be relevant, as it has a bearing on fire risk:

- The number of floors below ground and the number of floors above ground.
- The approximate area of each floor.
- Any ancillary uses to which one or more areas of the building is put, such as commercial, community activities, etc.

- The number and nature of the residents. It should be determined as to whether the number of disabled people is likely to be different from typical, specialized housing (e.g. where housing is specifically provided for disabled people).
- The presence of staff (e.g. a house or scheme manager, care workers, support workers, etc)
- Previous experience of fires.

### **Step 2: Identify the fire hazards and control measures**

A fire hazard is any source, situation or unsafe act that can cause a fire. Fire hazards within residents' accommodation and under the control of the residents need not be considered. Consideration should be given to the potential following causes of fire or fire development, and to measures provided to eliminate or reduce the likelihood of each cause:

- arson;
- electrical faults (in fixed wiring and any equipment provided);
- smoking;
- cooking;
- use of portable heaters;
- contractors' activities;
- heating installations;
- lightning;
- presence of combustible material, such as furniture, in common parts;
- storage and charging of mobility scooters;
- poor housekeeping, including inappropriate storage of refuse and discarded items.

For discussion of fire prevention measures, see Part F of this guide.

### **Step 3: Assess likelihood of fire**

All that is required is a subjective judgement as to whether, based on the findings of Step 2, there is an untoward likelihood of fire as a result of inadequate control over fire hazards.

### **Step 4: Determine the fire protection measures**

Fire protection measures are design features, systems, equipment or structural measures to reduce danger to people if fire occurs. Principal fire protection measures to consider are as follows.

- Compartmentation where required (to the extent that this can be established), including compartmentation within roof voids.
- The means of escape from fire, with consideration given to:
  - the fire resistance between flats and the common parts;
  - flat entrance doors, which should be fire-resisting and self-closing;



- protection of stairways from fire in adjacent areas;
- travel distance from flat entrance doors to the nearest cross-corridor door, stairway or final exit;
- linings in common parts;
- means for smoke control within the common parts of sheltered and extra care housing.
- Emergency escape lighting.
- Fire detection and alarm systems.
- Monitoring of smoke detection within flats in sheltered and extra care housing.
- Fire escape route signs (which are not normally necessary in simple premises).
- Any fire extinguishing appliances provided (these are not normally necessary in common parts).
- Any sprinkler or watermist installations.
- Any fire mains and fire-fighting lifts.

The adequacy of the existing fire protection measures should be assessed and any need for improvements should be identified. (Measures to assist the fire and rescue service, such as fire mains and fire-fighting lifts, are not required by the FSO, but may have been required under Building Regulations at the time of construction. Adequate maintenance of these measures should be verified.)

For discussion of fire protection measures, see Part H of this guide.

#### **Step 5: Obtain information about fire safety management**

Matters to consider include the following:

- Responsibility for fire safety in the building
- Where relevant, cooperation between different duty holders
- Access to competent advice on fire safety legislation
- The emergency plan, particularly the procedures for residents to follow in the event of fire
- Testing and maintenance of fire protection systems and equipment
- Documentation of the fire safety arrangements, where this is required
- Training of any persons employed to work in the building
- Co-ordination with any non-domestic occupier, such as commercial premises and community facilities
- Arrangements for routine inspections of the building and its fire precautions, and, where appropriate, formal fire audits
- Arrangements for engagement with residents (including whether there is a process for identification of residents for whom a person-centred fire risk assessment is necessary).

#### **Step 6: Assess the likely consequences to people in the event of fire**

This is based on an understanding of the fire protection measures and fire safety management. In addition, account needs to be taken of the way occupants are likely to respond in the event of fire.

All that is normally required is a subjective judgement as to whether, as a result of resident characteristics, in conjunction with shortcomings identified in Steps 4 or 5, there is an untoward exposure of people to injury or death in the event of a fire that occurs within, or spreads to, the common parts.

Other than in supported housing, consideration of resident characteristics can only be generic, and does not take into account the specific circumstances of each and every resident; for particularly vulnerable residents, a person-centred fire risk assessment (see Part D of this guide) would be appropriate and would consider the risk posed within the resident's accommodation as well as in the building.

### Step 7: Make an assessment of the fire risk

Fire risk is a combination of the likelihood of fire (identified in Step 2) and the consequences of fire (identified in Step 6). There is no unique way in which fire risk should be expressed, but it is innate to the process of carrying out the fire risk assessment that there be an assessment of fire risk, which it is then appropriate to document.

One simple method of consistently expressing fire risk is given in PAS 79 and can be useful for comparing the fire risk in one building to that in another (e.g. within the single estate of one organisation). This is reproduced below:

Potential consequences of fire →	Slight harm	Moderate harm	Extreme harm
Likelihood of fire ↓			
Low	Trivial risk	Tolerable risk	Moderate risk
Medium	Tolerable risk	Moderate risk	Substantial risk
High	Moderate risk	Substantial risk	Intolerable risk

### Step 8: Formulate and document an action plan

If it is considered that the fire risk and existing fire precautions are such that no improvements are necessary, this should be recorded within the fire risk assessment.

The action plan should address both physical fire precautions and managerial issues, and should normally prioritize measures (unless all required measures are relatively trivial and can be implemented in a short time), so that the appropriate effort and urgency is clear. Measures within the action plan should be both practicable to implement and possible to maintain, taking into account the nature of the building and its occupants.

### Step 9: Set a date for review

The fire risk assessment should set a 'long stop' date by which it should be reviewed, even if no changes have taken place in the interim period.

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## Appendix 3: Selecting a competent professional fire risk assessor

- A3.1 The FSO does not require that fire risk assessments are carried out by competent specialists. Responsible Persons, or their employees, can often, if competent, carry out fire risk assessments. However, where external professional fire risk assessors are employed, it is important to establish that they too are competent; if the fire risk assessment is not suitable and sufficient, and people are placed at risk of death or serious injury as a result, the Responsible Person (and the fire risk assessor) is exposed to the risk of prosecution for an offence.
- A3.2 Competence does not necessarily arise from specific qualifications, but will be the result of a suitable blend of education, training and experience, knowledge and other qualities that enable a fire risk assessor to carry out a fire risk assessment for specialized housing.
- A3.3 It is generally accepted that a competent fire risk assessor appointed by the Responsible Person for specialized housing will require an understanding of:
- the intent, objectives and requirements of the FSO, as it relates to specialized housing;
  - the design principles of the form of specialized housing in question;
  - the causes of fire in specialized housing and means for their prevention;
  - relevant fire safety measures for specialized housing, particularly compartmentation, means of escape, fire detection systems and evacuation strategy;
  - the relationship between the configuration of the fire detection system and the evacuation strategy;
  - the appropriateness of fire extinguishing appliances in specialized housing;
  - fire safety management, as it relates to the form of specialized housing in question and the operating model in place;
  - the effect of residents' characteristics, including age, mental health and cognitive issues, disabilities, social factors and lifestyle factors, on the risk to residents of specialized housing.
- A3.4 Guidance on selecting a competent fire risk assessor has been produced by the Fire Risk Assessment Competency Council (FRACC), which comprises a large group of stakeholders within the fire safety profession. Where external specialists are engaged to carry out fire risk assessments, the FRACC recommend the use of a company that is third party certificated in relation to fire risk assessments by a third party certification body that is, itself, accredited by the United Kingdom Accreditation Service (UKAS) to operate the certification scheme in question.

- A3.5 The FRACC guidance, which includes a list of third party certification schemes, is available to download from many fire and rescue services', and other stakeholders', websites (e.g. [www.fia.uk.com/resourceLibrary/guidance-choosing-a-competent-fire-risk-assessor.html](http://www.fia.uk.com/resourceLibrary/guidance-choosing-a-competent-fire-risk-assessor.html)).
- A3.6 The FRACC also produce a competence standard for persons who carry out fire risk assessments; it sets out all aspects of fire safety that need to be known to a competent fire risk assessor. Again, that guidance may be downloaded from numerous websites (e.g. [www.fia.uk.com/resourceLibrary/fire-risk-assessors-competency-criteria.html](http://www.fia.uk.com/resourceLibrary/fire-risk-assessors-competency-criteria.html)).
- A3.7 Competence of persons who carry out fire risk assessments, whether on an in-house basis (e.g. within a housing provider) or as external consultants, can often be established by professional registration, or third-party certification, of the individual fire risk assessors. For example, a number of professional bodies operate registers of persons deemed to be competent to carry out fire risk assessments, and it is also possible to achieve certification of competence by an independent certification body.
- A3.8 Use of registered or third-party certificated persons, or (preferably) third-party certificated firms, to carry out fire risk assessments is one way Responsible Persons can establish due diligence in compliance with the requirement for a suitable and sufficient fire risk assessment.
- A3.9 The Fire Industry Association (FIA) have produced various guidance documents in relation to fire risk assessment, all of which are available on the FIA website ([www.fia.uk.com](http://www.fia.uk.com)). This includes a guidance document on a standard scope of services; this can be used as the technical basis for a contract between a fire risk assessor and the organization that employs their services ([www.fia.uk.com/resourceLibrary/fire-risk-assessors-standard-scope-of-services.html](http://www.fia.uk.com/resourceLibrary/fire-risk-assessors-standard-scope-of-services.html))
- A3.10 In appointing an external specialist to carry out a fire risk assessment, it should be borne in mind that specialized housing is very different in nature from commercial premises, such as offices, shops and factories, and general needs housing. In selecting a fire risk assessor, the Responsible Person should ensure that the competence of the fire risk assessor extends specifically to the principles of fire safety applicable to the form of specialized housing in question (i.e. sheltered housing, extra care housing or supported housing).

# Appendix 4: Steps in a person-centred fire risk assessment

- A4.1 The need for person-centred fire risk assessment can be identified by the Responsible Person, carer, family, or any agency involved in engagement with residents.
- A4.2 Like any fire risk assessment, a person-centred fire risk assessment of an individual resident of specialized housing should consider the person at risk, potential ignition sources, potential for development of fire and the existing fire precautions.
- A4.3 A simple approach to a person-centred fire risk assessment comprises nine steps, which are set out below.

## **Step 1: Consider the characteristics and behaviours of the resident that may lead to fire risk.**

Factors to consider include:

- Mobility.
- Sensory impairment.
- Mental health or cognitive difficulties.
- Dementia.
- Use of alcohol or drugs.

## **Step 2: Determine the potential causes of fire and the existing measures to prevent fire.**

Consideration should be given to the extent to which resident characteristics impact on the likelihood of fire, as well as general fire hazards within the residents' accommodation. Accordingly, the following should be considered, along with any existing control measures.

- Smoking practices of the resident.
- Hazards arising from cooking, particularly the potential for the resident to leave cooking unattended, but also any tendency to place inappropriate materials in microwave ovens.
- Fire hazards of electrical equipment. This should include consideration in the use of electric blankets and whether these are maintained regularly.
- Use of portable heaters, with particular consideration of those of a hazardous nature, such as electric bar fires or paraffin heaters.
- Use of candles.

- Potential for deliberate ignition.

**Step 3: Identify any circumstances that could lead to the rapid development of fire.**

Such circumstances include hoarding behaviour and use of oxygen. Where hoarding is found to occur, an estimate should be made of the “clutter level”, using the visual definitions of clutter levels contained in this appendix.

**Step 4: Identify existing measures to protect the resident if fire occurs.**

Consideration should be given to fire detection and alarm systems, fire-resisting doors (if any) and fire suppression systems (if any).

**Step 5: Consider capacity of resident to respond appropriately to fire alarm signals or signs of fire.**

Consideration should be given to the ability of the resident to respond to the type of fire signal they will be given in the event of a fire within their accommodation, and to their ability to respond to visible signs of fire.

**Step 6: Consider ability of resident to make their way to safety.**

Ability to move away from the fire, evacuate the room of fire origin, evacuate their own accommodation and evacuate the building should each be taken into account.

**Step 7: Determine the level of risk to the resident from fire.**

This may be expressed subjectively by, for example, a simple description of overall risk to the resident, such as low, medium or high.

**Step 8: Prepare action plan.**

The ultimate objective of the person-centred fire risk assessment is a suitable action plan, to address the risk to the resident to a level that is reasonable in the circumstances. Measures incorporated in the action plan should be sufficient to compensate for issues that place the resident at undue risk that is atypical of residents in the type of accommodation in question.

Measures need to be related directly to the risk factors identified in the person-centred fire risk assessment. These may include any of the measures discussed in Part G of this guide, such as measures to prevent fire or spread of fire, enhance early warning in the event of fire, or suppress fire.

The outcome of the person-centred fire risk assessment will need to be referred to persons or organizations that are able to assist the resident. These may include duty holders under the FSO, the fire and rescue service or Adult Social Care.

**Step 9: Determine period for review of the assessment.**

The person-centred fire risk assessment should advise on a date for a review of the assessment. This should take into account the level of risk, the measures that

need to be put in place and the extent to which risk will increase with time (e.g. as a result of deterioration of a resident's mental or physical capacity).

- A4.4 A suitable template for documenting the findings of a person-centred fire risk assessment is shown below.

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# Record of person-centred fire risk assessment

<b>Full Address</b>		<b>Resident Name</b>	
<b>Date</b>		<b>Name of Assessor</b>	
<b>Date for review</b>			

<b>Hazard and risk factors</b>	<b>Circumstances (circle as appropriate)</b>	<b>Further details of current circumstances</b>	<b>Details of any existing control measures</b>	<b>Outstanding risk (Yes or No)</b>	<b>Additional actions required</b>
Smoking	Non-smoker	No further consideration required.			
	Smokes but no signs of careless handling				

Hazard and risk factors	Circumstances (circle as appropriate)	Further details of current circumstances	Details of any existing control measures	Outstanding risk (Yes or No)	Additional actions required
	Smokes and signs of careless handling	<input type="checkbox"/> Does not use reduced ignition propensity cigarettes. <input type="checkbox"/> Discarded cigarettes and matches. <input type="checkbox"/> A few burn marks found on carpets. <input type="checkbox"/> Multiple burn marks found on carpet. <input type="checkbox"/> Cigarette burns to clothes or furnishings. <input type="checkbox"/> Other (please specify): _____ _____ _____			
Cooking	No cooking facilities. <hr/> Cooking, but no evidence or suggestion of careless behaviour.	No further consideration required.			

Hazard and risk factors	Circumstances (circle as appropriate)	Further details of current circumstances	Details of any existing control measures	Outstanding risk (Yes or No)	Additional actions required
	Cooking and evidence or suggestion of careless behaviour.	<input type="checkbox"/> Inappropriate use of cooking equipment (e.g. microwave ovens). <input type="checkbox"/> May occasionally leave cooking unattended. <input type="checkbox"/> Likely to leave cooking unattended. <input type="checkbox"/> History of alarm signals or small fires from cooking. <input type="checkbox"/> Other (please specify): <hr/> <hr/> <hr/>			
Electrical	<p>Equipment safely used and maintained.</p> <p>Extensive use of extension leads and adapters and/or electric blankets, but adequately maintained.</p>	No further consideration required.			

Hazard and risk factors	Circumstances (circle as appropriate)	Further details of current circumstances	Details of any existing control measures	Outstanding risk (Yes or No)	Additional actions required
	Use of extension leads and adapters and/or electric blankets, but lack of maintenance or signs of wear and tear.	<input type="checkbox"/> Cube adapters. <input type="checkbox"/> Potential overloading of circuits. <input type="checkbox"/> Worn equipment or cables. <input type="checkbox"/> Electric blankets not maintained regularly. <input type="checkbox"/> Other (please specify): _____ _____ _____			
Portable heaters	<p>No use of portable heaters.</p> <hr/> <p>Portable heaters limited to oil-filled radiators or convector heaters compliant with modern standards.</p>	No further consideration required.			

Hazard and risk factors	Circumstances (circle as appropriate)	Further details of current circumstances	Details of any existing control measures	Outstanding risk (Yes or No)	Additional actions required
	Higher hazard portable heaters, such as fan heaters, radiant bar fires or paraffin heaters.	<input type="checkbox"/> Evidence of heaters sited too close to combustible materials. <input type="checkbox"/> Likelihood of heaters sited too close to combustible materials. <input type="checkbox"/> Potential for other careless use (e.g. drying clothes, warming meals, etc.). <input type="checkbox"/> Other (please specify): <hr/> <hr/> <hr/>			
Use of candles	No candle use.	No further consideration required.			
	Candles used, but with appropriate precautions				
	Candle use without appropriate precautions.	<input type="checkbox"/> Please specify: <hr/> <hr/> <hr/>			
Deliberate ignition	No history of, or likely potential for, deliberate ignition.	No further consideration required.			

Hazard and risk factors	Circumstances (circle as appropriate)	Further details of current circumstances	Details of any existing control measures	Outstanding risk (Yes or No)	Additional actions required
	No history of deliberate ignition, but some potential.	Please specify: _____ _____ _____			
	History or likelihood of deliberate ignition.	<input type="checkbox"/> Previous history of deliberate ignition. <input type="checkbox"/> History of malicious false alarms to the fire and rescue service. <input type="checkbox"/> Other (please specify): _____ _____ _____			
Alcohol or drug use	None.	No further consideration required.			
	Alcohol or drug use, with no other high fire risk behaviour.				

Hazard and risk factors	Circumstances (circle as appropriate)	Further details of current circumstances	Details of any existing control measures	Outstanding risk (Yes or No)	Additional actions required
	Significant alcohol or drug use, combined with high fire risk behaviour.	<input type="checkbox"/> Evidence or likelihood of careless handling of smoking materials. <input type="checkbox"/> Evidence or likelihood of leaving cooking unattended. <input type="checkbox"/> Other (please specify): _____ _____ _____			
	No hoarding, or hoarding of generally non-combustible materials that do not obstruct escape routes.	No further consideration required.			
Hoarding (access)	Hoarding between clutter levels 1 and 4 <sup>13</sup>	<input type="checkbox"/> Hoarding confined to a single room. <input type="checkbox"/> Hoarding in more than one room. <input type="checkbox"/> Hoarding within escape route. Types of materials hoarded: _____ _____ _____			

<sup>13</sup> Visual images of clutter ratings are set out at the end of this appendix.

Hazard and risk factors	Circumstances (circle as appropriate)	Further details of current circumstances	Details of any existing control measures	Outstanding risk (Yes or No)	Additional actions required
	Hoarding between clutter levels 5 and 9 <sup>14</sup>	<input type="checkbox"/> Hoarding confined to a single room. <input type="checkbox"/> Hoarding in more than one room. <input type="checkbox"/> Hoarding within escape route. Types of materials hoarded: _____ _____ _____			
Oxygen	No oxygen used.	No further consideration required.			
	Use of oxygen combined with high fire risk behaviour.	<input type="checkbox"/> Oxygen use combined with smoking. <input type="checkbox"/> Other (please specify): _____ _____ _____			
Sensory impairment	None.	No further consideration required.			

<sup>14</sup> Visual images of clutter ratings are set out at the end of this appendix.



Hazard and risk factors	Circumstances (circle as appropriate)	Further details of current circumstances	Details of any existing control measures	Outstanding risk (Yes or No)	Additional actions required
	Hard of hearing, or partially sighted.	Please specify: _____ _____ _____			
	Deaf or blind.	Please specify: _____ _____ _____			
Capacity of resident to respond appropriately to fire alarm signals or signs of fire.	Fully able to respond appropriately.	No further consideration required.			
	May be slow to respond.	<input type="checkbox"/> Limited decision-making ability. <input type="checkbox"/> Learning difficulties. <input type="checkbox"/> Dementia. <input type="checkbox"/> Please specify: _____ _____ _____			

Hazard and risk factors	Circumstances (circle as appropriate)	Further details of current circumstances	Details of any existing control measures	Outstanding risk (Yes or No)	Additional actions required
	Unable to respond; would need staff assistance.	<input type="checkbox"/> Inability to make appropriate decisions. <input type="checkbox"/> Severe learning difficulties. <input type="checkbox"/> Dementia. <input type="checkbox"/> Please specify: _____ _____ _____			
Ability of resident to make their way to safety.	Fully able.	No further consideration required.			
	Limited mobility, so slow to evacuate.	<input type="checkbox"/> Ability to evacuate the building. <input type="checkbox"/> Ability to move from the room of fire origin, but not the building. <input type="checkbox"/> Ability to move away from the fire, but not the room of fire origin.			
	No mobility without assistance.	Please specify: _____ _____ _____			

Hazard and risk factors	Circumstances (circle as appropriate)	Further details of current circumstances	Details of any existing control measures	Outstanding risk (Yes or No)	Additional actions required
Other factors.		Please specify: _____ _____ _____			

Risk Level	Low		Medium		High	
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## Clutter Image Rating Scale: Kitchen

Please select the photo below that most accurately reflects the amount of clutter in your room.



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## Clutter Image Rating: Bedroom

Please select the photo that most accurately reflects the amount of clutter in your room.



1



2



3



4



5



6



7



8



9

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## Clutter Image Rating: Living Room

Please select the photo below that most accurately reflects the amount of clutter in your room.



1



2



3



4



5



6



7



8



9

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# Appendix 5: Further guidance on mobility scooters

A5.1 This appendix provides further information on the types and design of mobility scooters, and possible arrangements for the safe storage and charging of these vehicles. Possible arrangements for storage and charging of these vehicles are also discussed. It is not suggested that all possible arrangements detailed are acceptable in every case; this is a matter for the building fire risk assessment (see Part E). Alternative solutions for storage and charging may also be available. Reference should also be made to [Put in ref to new CFA guidance.]

## **Mobility Scooter type and design**

A5.2 The term 'mobility scooter' is used in this guide to refer to all forms of battery-powered vehicles, including motorized wheelchairs, scooters and invalid carriages.

A5.3 The type and size of mobility scooters vary and anecdotal information suggests that there were over 400 different types of mobility scooters readily available on the market in 2012; that figure may well have risen since that study was published.

A5.4 Mobility scooters are separated into three categories under the Use of Invalid Carriages on the Highways Regulations 1988. Class 1 refers to manual wheelchairs that are not electrically propelled. Class 2 refers to powered wheelchairs and scooters intended for use on footpaths. Class 3 refers to powered scooters and invalid carriages intended for use on the road.

A5.5 The only significance of this classification, for fire safety, is that Class 3 vehicles are generally much larger, have a much wider turning circle and have potentially larger and heavier batteries, which are more difficult to remove for charging. This consequently limits the options to provide suitable storage arrangements within the common parts of premises, whereas mobility scooters that fall into the Class 2 category are usually smaller and more manoeuvrable; this provides greater flexibility to find suitable storage locations within the common parts of premises.

A5.6 In addition, the size and limited manoeuvrability of Class 3 scooters makes it difficult, if not impossible, for the scooter to pass through individual flat entrance doors. Even if this is possible, it may not be possible to proceed beyond the entrance hall, which may, in itself, present a risk to the individual resident as it blocks their means of escape if fire occurs within their flat. This removes the option for this type of scooter to be stored inside residents' own accommodation, which is why Class 3 mobility scooters are often left outside flat entrance doors in common corridors and on escape routes.

A5.7 It is generally possible for Class 2 scooters to pass through flat entrance doors, and this provides the option to store the scooters within the residents' own accommodation. However, the risk to individual residents as a consequence of storing and charging mobility scooters within their own accommodation needs to be considered.

- A5.8 There are limited controls placed on the sale of mobility scooters in the UK in relation to fire safety. The standard of manufacture among some foreign imports has been questioned, although there is limited evidence to suggest conclusively that foreign imports present a particular fire risk.
- A5.9 The current British/European Standard for electrically powered wheelchairs, scooters and their chargers, BS EN 12184: 2014, applies to the manufacture of mobility scooters in the UK and Europe. The standard considers two specific aspects related to fire, namely the resistance to ignition and the risk of ignition from the power and control systems. The ignition resistance test is based on the simulated match test used for fire testing of upholstered furniture. The test for power and control systems is designed to reduce the risk from ignition of any part of a power and control system, including the battery charger.
- A5.10 Mobility scooters conforming to the above standard would therefore provide a degree of confidence that the risk of fire has, to some degree, been addressed in the design and manufacture. Some manufacturers have gone even further in respect of fire safety and produced scooters that they claim are almost non-flammable. Some also have very light batteries that can be easily removed and charged inside flats. These measures obviously reduce the risk of ignition and reduce the fire load to a minimum, which might reduce restrictions on storage.
- A5.11 Accordingly, these factors could well be taken into account as part of the overall risk assessment in determining the options for storage and charging of mobility scooters.

### **Storage and charging**

- A5.12 There cannot be a 'one size' fits all approach taken to storing or charging mobility scooters. The layout and design of each building will be different; the type, number and location of mobility scooters will also differ and the needs of individual residents should be considered as part of the overall assessment of risk. A solution that might be appropriate in one building may not be acceptable in another. Although external storage may present less of a risk in terms of fire safety, the vulnerability and mobility of residents may make it impracticable for them to utilize external facilities.
- A5.13 The options detailed below present a best practice approach that could be applied, based on a hierarchy of risk to life, from low to high, but any one of which might be acceptable in the right circumstances. Where, in the following options, there is reference to fire-resisting construction and fire-resisting doors, the period of fire resistance should normally be 60 minutes, except where an area contains no more than three mobility scooters or is provided with automatic fire suppression, in which case 30 minutes fire resistance will normally be adequate.

#### **Option 1: External parking with charging facilities**

The parking of mobility scooters outside premises is potentially an option. In most instances, it would be expected that a charging facility would be provided adjacent to the parking area. Security and the risk of arson would need to be considered, as would the location, which should not present a risk of fire spread into the building in the event of a fire.

#### **Option 2: External storage with charging facilities:**



The provision of purpose-built secure storage and charging facilities (including individual storage units), or the conversion of existing external facilities, such as garages or storerooms, to provide storage and charging facilities, might be considered. Dependent on their location and proximity to the building, such facilities may need to be fire-resisting enclosures and may also be fitted with automatic fire detection.

Option 3: Purpose-designed internal storage rooms:

The provision of purpose-designed or specifically adapted rooms inside premises for the storage and charging of one or more mobility scooters might be an option. Rooms would, as a minimum, need to be enclosed in fire-resisting construction, and be fitted with fire-resisting, self-closing doors and automatic fire detection.

Option 4: Internal area enclosed in fire-resisting construction:

This could include the provision of storage in areas located off common stairways and circulation spaces that have been enclosed in fire-resisting construction to separate them from the remainder of the adjacent space. These areas would be specifically provided for the storage and/or charging of possibly one or a small number of mobility scooters. These areas would, as a minimum, need to be fitted with fire-resisting, self-closing doors and automatic fire detection.

Option 5: Existing fire-resisting rooms utilized for storage:

The storage and charging inside rooms, not originally designed for this purpose but which are separated from the remainder of the premises with fire-resisting construction and self-closing fire doors, might be considered. This may include options to utilize storerooms, utility rooms, unused offices or meeting rooms on a permanent or temporary basis. In these instances, the use of the rooms, or clearly separated areas, might need to be restricted to the storage and charging of mobility scooters and not combined with other uses.

In addition, the storage and charging inside existing rooms such as common lounges, games rooms, libraries or other common rooms where space permits may be a further possible option. The main use of the rooms would not change, and this may only be an option for the storage and charging of scooters overnight when these rooms are not in use. These rooms would generally be separated from the remainder of the building with fire-resisting construction and fire-resisting, self-closing doors, and will, in most cases, already be fitted with automatic detection.

Option 6: Internal storage in designated areas of corridors:

In some buildings, the design of common corridors may already accommodate areas where seating and other furniture is permitted. These sections of corridors would be separated with fire-resisting, self-closing, cross-corridor doors. Flat entrance doors would not open directly into these areas. As these sections of corridors already contain potential fire hazards and are suitably protected with automatic detection (and possibly ventilation), consideration could be given to the storage and, possibly, with the correct safeguards, the charging, of a limited number of mobility scooters. It would need to be ensured that the storage would not obstruct escape routes.

Option 7: Storage and charging within residents' own accommodation:

Suitable storage and charging arrangements might be possible inside the accommodation of individual residents. This option removes the risk from the common areas, and it places the storage and charging of scooters within a fire-resisting enclosure beyond a fire-resisting, self-closing door. However, this potentially places individual residents at risk from a fire involving a mobility scooter

in their own home. If this option is considered, the scooter should not be stored or charged in the hallway, if this is the only means of escape available. The scooter should, preferably, be stored and charged in a separate room, which is fitted with a fire-resisting or substantial door and fire detection. Residents should be provided with advice on the safe use and charging of scooters as part of a person-centred approach.

Option 8: Internal storage in common corridors and stairways:

The charging of scooters in dead end corridors and single stairway escape routes should not be permitted in any circumstances. Even where alternative means of escape is available, the storage, and particularly the charging, of mobility scooters in common corridors and escape routes is not generally recommended and all other alternatives should be considered

However, in some situations, where adequate compensatory measures exist, it might be considered reasonable to allow the storage (but not charging) of a limited number of mobility scooters in common corridors and escape routes where alternative means of escape are available. Compensatory factors that might be considered could include the provision of an automatic sprinkler or watermist system, a comprehensive fire detection and alarm system (which is automatically linked to an alarm receiving centre), adequate smoke ventilation, alternative means of escape available from all flats that open directly onto the escape route in question, or the use of scooters with limited flammability

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# Appendix 6: Guidance when commissioning Telecare services

- A6.1 It is long-standing convention that, in sheltered housing, domestic smoke alarms (or, now less commonly, fire detectors that form part of a single, communal fire alarm system) are connected to the social alarm (“Telecare”) system, that results in transmission of alarm signals (from pull-cord and pendant devices as well as smoke alarms) to an on-site scheme manager and a Telecare-equipped alarm receiving centre (ARC).
- A6.2 Social alarm systems were first developed for transmission of manually initiated signals (from the pull-cord and pendant devices) if a resident was in need of some form of assistance (e.g. because of a fall). As such, they were not designed to satisfy the standards of integrity, reliability and resilience normally required of a life-critical system, such as a fire alarm system.
- A6.3 However, the use of Telecare systems for monitoring smoke detection in residents’ accommodation in sheltered and extra care housing (and in some supported housing) is recommended in this guide because, in the event of a fire signal, speech transmission between the scheme manager or ARC and the resident is established automatically. This assists greatly in avoidance of passing unwanted fire alarm signals (UFAS) to the fire and rescue service; if all signals from smoke detectors within residents’ accommodation in all sheltered and extra care housing were automatically passed to the fire and rescue service without filtering, the number of UFAS would result in an unacceptable burden on the fire and rescue service.
- A6.4 This is particularly the case as this guide strongly recommends that, in all sheltered and extra care housing, fire alarm signals from every flat should be remotely monitored by staff and/or an ARC. For new and upgraded fire detection systems, a Category LD1 system is recommended, which is an increase in the number of detectors traditionally provided in these flats, so, inevitably, increasing the potential number of UFAS.
- A6.5 In some cases, the traditional social alarm system might not be needed in some flats because the residents in these flats are not of a vulnerability that necessitates the provision of pull-cord and pendant devices. However, this does not obviate the need for remote monitoring of smoke detection within every flat, because the purpose of that monitoring is not primarily to facilitate the rescue of a resident in the flat of fire origin, but is to result in the early attendance of the fire and rescue service to enhance the safety of the ‘stay put’ policy adopted in relation to residents beyond that flat (see paragraphs 83.26-83.29).
- A6.6 Accordingly, failure to provide remote monitoring of smoke detection in the flat of a resident, purely because the resident does not, otherwise, need provision of Telecare monitoring, has the potential to result in undue risk to other residents

- A6.7 The above principles accord with guidance under the Building Regulations in England and Wales. In this connection, Approved Document B under the Regulations specifically recommends that the detection equipment in a sheltered housing scheme with a warden or supervisor should have a connection to a central monitoring point (or alarm receiving centre) so that the person in charge is aware that a fire has been detected in one of the flats and can identify the flat concerned. Similarly, DCLG guidance on fire safety risk assessment<sup>15</sup> recommends that an individual private dwelling in sheltered accommodation should have a Grade C fire alarm system, which, by definition, includes smoke detection that is integrated with a social alarm system, but not domestic smoke alarms without such an arrangement. National guidance on fire safety in purpose-built blocks of flats<sup>16</sup> also recommends that fire alarm signals from individual flats should be relayed to the same location as alarm signals from a social alarm system.
- A6.8 From the above considerations, it follows that, as far as practicable:
- a) The engineering of a Telecare system used to transmit fire alarm signals (both in respect of product design and installation standards) should be of equivalent integrity, reliability and resilience as required for the smoke detection system and the alarm transmission equipment typically used for remote transmission of signals from fire alarm systems.
  - b) The Telecare ARC that monitors the fire alarm signals should satisfy the appropriate standards for the ARCs that traditionally monitor signals from fire alarm systems.
- A6.9 It is acknowledged that these objectives are not always fully achievable with all current Telecare systems and Telecare ARCs. However, it is recommended that the Telecare industry work with the housing sector with the objective of moving towards these objectives; in the meantime, specifications for new Telecare monitoring should endeavour to ensure that the objectives are achieved as far as reasonably practicable.
- A6.10 At the very least, it is essential that one major issue that has come to light after fatal fires and “near misses” is addressed, namely that, in some Telecare systems, if the two-way speech channel between a flat and a Telecare ARC is opened (e.g. because a pull-cord has been operated):
1. Smoke alarm signals from the same flat are blocked from transmission (though ARC staff may, but do not always, hear the smoke alarm sounding in the flat. In the case of one fatal fire, a coroner has ordered consideration of this issue in the use of Telecare systems; and
  2. Action at the ARC in response to smoke alarm signals from other flats (and signals from the communal fire alarm system, if transmitted via the Telecare system) can be significantly delayed, as these signals simply result in a “call waiting” tone to the Telecare operator who is already in communication with a flat, without any indication that the waiting call is a fire alarm signal.

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<sup>15</sup> Fire safety risk assessment. Sleeping accommodation. HM Government Department for Communities and Local Government Publications. (Also available at <http://www.communities.gov.uk/publications/fire/firesafetyrisk4.>)

<sup>16</sup> Fire safety in purpose-built blocks of flats (LGG guide). Local Government Group. July 2011.

- A6.11 As a result of the above issues, BS 5839-6: 2013 makes the following recommendations, which are strongly endorsed in this guide and should be included in all specifications for new Telecare monitoring or upgrading of existing Telecare monitoring:
1. Where there is more than one fire detector within a flat, a signal should be transmitted to an ARC, regardless of which detector in the flat operates.
  2. Fire signals need to be readily distinguishable from social alarm signals by the scheme manager and at the ARC.
  3. Measures are necessary to ensure that receipt of alarm signals by the scheme manager, and by any ARC, is not significantly delayed if, prior to the fire alarm signal, a device on the social alarm system is operated in the flat of fire origin or in any (or all) other flats. At the very least, under these circumstances, a display at the ARC ought immediately to indicate unambiguously a waiting fire alarm signal, without the need to interrupt the speech communication initiated in response to a signal from a social alarm device.
- A6.12 In addition, in considering the resilience of the Telecare monitoring system, consideration should be given to the standby power supply necessary to power the system in the event of mains failure. In principle, the standby power supply should be capable of operating the system for, at least, 24 hours, taking into account reasonably foreseeable use of the system by the residents during that period (but, preferably, 72 hours).
- A6.13 With regard to the Telecare ARC, to which fire alarm signals are relayed, the ARC should comply, as far as is reasonably practicable, with the recommendations of BS 8591 for a Category 1 remote centre. In selecting a Telecare ARC, preference should be given to ARCs that are compliant with this standard. There are third party certification schemes for ARCs (see Section 73).

# Appendix 7: Fire safety advice for residents

The following advice is aimed at residents living independently in sheltered or extra care housing, which has been designed for a 'stay put' evacuation strategy. Depending upon the circumstances, and the residents, much of it may also be relevant to residents of supported housing.

## **FIRE SAFETY ADVICE:**

### **Protecting you and your household from fire**

Keeping yourself and those around you safe from fire involves taking steps to prevent fires occurring in the first place, and also knowing what to do if a fire were to occur in your accommodation and how to get out and make your way to safety. Below is some general guidance.

Your housing provider will be able to tell you about the fire safety equipment and features of the building that have been provided to keep you safe. If there is a fire alarm system fitted, they may also have specific instructions on what to do when you hear the alarm sounding while in your accommodation or in the common areas. They may also have specific information on what to do and where to go once you leave your accommodation in the event of a fire. This information may be on notices displayed in the building or be given in, for example, a residents' handbook. If in doubt, speak to your housing provider.

It is important you understand what is required of you to keep the fire safety equipment in the building working properly and the fire safety features, such as fire doors to staircases, effective. For example, even though the housing provider will test and service any fire alarm system in the building, it will often be necessary for you to test the smoke alarms in your accommodation. Again, your housing provider can advise on this.

### **You can prevent fire from happening by taking a few simple steps:**

- Don't overload electrical sockets.
- Turn off appliances when not in use. Don't even leave them on standby.
- If an electrical appliance stops working or appears faulty in any way, get it checked out. If the plugs or leads are damaged or worn, get them repaired.
- If you or anyone else in your accommodation smokes, make sure cigarettes are put out properly, use a proper ashtray and don't smoke in bed.
- Keep matches out of reach and sight of vulnerable adults in your household and any children visiting you.
- Take great care if you use candles. Keep candles clear of curtains or other items that catch fire and make sure they are on a surface that doesn't burn and in proper holders that will keep them securely upright.
- Don't leave cooking unattended.

- Be especially vigilant when cooking with oil. Never throw water on a fire involving oil. Do not use chip pans; use a safer alternative such as oven chips.
- Take care if you use portable heaters. Don't dry clothes over them or otherwise obstruct them.
- If you use an electric blanket, make sure it is in good condition. Only use blankets that bear the BEAB certification mark. Do not use blankets that are more than 10 years old or that show signs of wear. Arrange for the blanket to be checked by a specialist every three years or as recommended by the manufacturer.
- If you have a mobility scooter, follow the guidance from your housing provider as to where it can be stored and charged. It might not be permitted for it to be left in a common corridor or staircase. If you need to keep it in your own accommodation, make sure you don't leave it where it will stop you getting out quickly in an emergency.
- If you require oxygen therapy, follow the guidance you are given on using this safely. Never smoke when using oxygen.

#### **Keep safe and plan your escape:**

Early warning of a fire in your accommodation is vital. Your accommodation is likely to have been fitted with smoke alarms or another form of fire alarm system. If your accommodation is not already provided with smoke alarms, fit them. For the best protection, fit one in every room, including bedrooms and the lounge, and fit a heat alarm in your kitchen. Make sure your smoke/heat alarms meet British/European standards. Ensure they are linked together so they all sound the alarm. Get an electrician to fit mains-powered devices, and buy models that have a standby power supply in case of mains failure.

Make sure you know what to do in the event of a fire in your accommodation or elsewhere in the building.

Your accommodation is in a building designed to be fire resisting. A fire should not spread from one flat to another, so there will often be no need to leave your home if there is a fire elsewhere in the building. That said, if in doubt, get out. Always leave if your accommodation is affected by smoke or heat or if told to by the fire service.

Follow the instructions on the fire action notices. Take time to read them, so that you know what to do if there is a fire or the fire alarm sounds.

If you discover a fire or hear the smoke alarms operating in your flat, alert anyone else in the flat and get out at once and leave the building.

If you are in a corridor, lift lobby or stairway and you notice a fire, leave the building immediately and, if safe to do so, alert other residents in the immediate vicinity on your way out (knock on their door). If the building is fitted with a fire alarm system, operate a fire alarm call point by breaking the glass on your way out.

If you are in the common parts and you hear the fire alarm sounding, leave the building. Do not return to your flat.

Your stairway is designed to be safe for escape throughout the course of a fire. Always use the stairway to descend to ground level if escaping.

Your housing provider may have specific instructions including where to wait outside (it may be possible to wait inside, for example, in a communal lounge, but this will be dependent on the circumstances in your building – check the instructions from your housing provider).

**Always call the fire service if there is a fire.**

**Do not return to your flat until it is safe to do so.**

**Key things to remember:**

- Test your smoke alarms regularly (once a month – the start of a new month is a good way to remember to do this).
- Keep the exit from your accommodation clear so you can escape in an emergency.
- Close doors at night, especially the doors to the lounge and kitchen.
- Plan your escape now. Be prepared and don't wait until it happens.

**Assist your housing/care provider in keeping you and others safe from fire:**

You can help ensure your safety and the safety of other residents by assisting those managing fire safety in the building.

In particular:

- Follow the advice of your housing/care provider in preventing fires in your accommodation and elsewhere in the building and in avoiding false alarms from smoke alarms that disrupt you and others.
- Do not interfere with the fire alarm system that has been provided in the building. This will not only endanger you but other residents too.
- Never leave your belongings or rubbish in common corridors, the lift lobby or the stairways\*. This could affect you and your neighbours if there was a fire.
- Provide information when requested so that the fire and rescue service can be advised, when attending a fire, as to residents with, in particular, mobility issues and those using oxygen. This will greatly help the fire and rescue service.
- Do not wedge open fire doors. If you see a fire door, such as those to staircases, that is not closing or is damaged, let your housing provider know.



- Follow any restrictions that may apply to what you can store and use in your accommodation. If you are advised that the amount of belongings in your flat is too great and is creating a fire hazard, take action to reduce it.

\*Your housing provider might allow some items such as doormats and pot plants in the common parts and may provide some furniture. However, always check first as this may not be appropriate in your building.

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# Appendix 8: Examples of fire action notices

**Example of notice for use in sheltered or extra care housing with a 'stay put' policy**

## **FIRE ACTION**

### **IF FIRE BREAKS OUT IN YOUR HOME:**

- Leave the room where the fire is straight away, then close the door.
- Tell everyone in your home and get them to leave. Close the front door of your flat behind you.
- Do not stay behind to put the fire out.
- Call the fire service.
- Wait outside, away from the building at the assembly point\*

*\*It may be appropriate to specify the location if not immediately obvious and also to refer to any safe internal waiting areas, such as lounges, that can be used, at least temporarily, as a point of assembly.*

### **IF YOU SEE OR HEAR OF A FIRE IN ANOTHER PART OF THE BUILDING:**

- The building is designed to contain a fire in the flat where it starts. This means it will usually be safe for you to stay in your own flat if the fire is elsewhere.
- You must leave IMMEDIATELY if smoke or heat affects your home, or if you are told to by the fire and rescue service.
- If you are in any doubt, get out.
- If you are in the building but not in your accommodation when the fire alarm sounds in the common parts, you should leave and wait at the assembly point. Do not return to your accommodation.

### **TO CALL THE FIRE AND RESCUE SERVICE:**

- Dial 999 or 112.
- When the operator answers, give your telephone number and ask for FIRE.
- When the fire and rescue service reply, give the address where the fire is.
- Do not end the call until the fire and rescue service has repeated the address correctly.

**Example of notice for use in specialized housing with a communal fire alarm system  
and a simultaneous evacuation strategy**

**FIRE ACTION**

**IF FIRE BREAKS OUT IN YOUR ACCOMMODATION:**

- Leave the room where the fire is straight away, then close the door.
  - Do not stay behind to put the fire out.
  - Raise the alarm by using a 'break glass' call point.
  - Call the fire and rescue service.
  - Wait outside, away from the building at the assembly point\*.
- \*It may be appropriate to specify the location if not immediately obvious.*

**IF YOU SEE OR HEAR OF A FIRE IN ANOTHER PART OF THE BUILDING:**

- If you discover a fire elsewhere in the building, raise the alarm by using a 'break glass' call point and leave by the nearest fire exit.
- Call the fire and rescue service.
- Wait outside, away from the building at the assembly point.
- You must also leave immediately if you hear the alarm.

**TO CALL THE FIRE AND RESCUE SERVICE:**

- Dial 999 or 112.
- When the operator answers, give your telephone number and ask for FIRE.
- When the fire and rescue service reply, give the address where the fire is.
- Do not end the call until the fire and rescue service has repeated the address correctly.

## Appendix 9: Case study – Dwelling converted for supported housing (low risk)

This three storey house is of traditional construction, with brick exterior, timber floors, plasterboard ceilings and a pitched, tiled roof. The height of the first floor is not more than 4.5m above ground level.

The house comprises a kitchen, dining room, lounge and small laundry room on the ground floor. The ground floor rooms are accessed off the entrance hall, which leads to the open stairway to the first floor. The kitchen is an inner room, located off the dining room.

On the first floor are four bedrooms and a WC; all rooms open directly onto the stairway landing. The bedrooms have openable windows that would be suitable for escape. The two loft rooms on the second floor, which were formerly bedrooms, have been converted into a shower room and a bathroom.

There is a small basement, which extends under the rear half of the premises, and which is accessed from outside. There are no internal openings between the basement and the remainder of the premises. The basement is used for storage and contains the gas meter and electricity meter/distribution board.

The premises are used to provide supported housing for four service users, who have mild learning disabilities. Each of the service users has their own bedroom and they share the common facilities.

The service users are all capable of responding to fire alarm signals and can self-evacuate. It has been assessed that they can be relied upon to call the fire and rescue service in the event of a fire. A care worker provides on-site support during the day from 09:00 to 15:00 hours. Care staff are available by telephone outside these hours in the event of an emergency.

Simple security locks are fitted to the bedroom doors, but these are openable on the inside without the use of a key. Care staff have key access to the bedrooms.

The kitchen has the usual domestic appliances, including an electric cooker, microwave oven, toaster and kettle. Residents are not permitted to have cooking equipment or kettles in their rooms.

The laundry room has a washing machine, tumble dryer and a hot water airing cupboard.

## Existing Fire Prevention Measures

Fire prevention in the house is of a standard that would normally be expected in such housing. For example:

- The fixed electrical installation in the premises is inspected and tested every five years.
- The gas supply is subject to an annual inspection and test.
- Smoking is not permitted in the premises.
- Portable appliances in the common rooms are inspected and tested annually.
- Residents have their own portable electrical appliances in their rooms, including TVs, music players, phone chargers, etc, which are not included in the portable appliance testing (PAT) regime.
- Heating is by gas-fired central heating with low pressure water radiators. The balanced flue gas boiler is located in the laundry room and is serviced annually.
- Portable heaters are not used or permitted in the residents' bedrooms.

## Existing Fire Protection Measures

The floors are traditional timber floors, and ceilings are of plasterboard throughout, other than the ceiling to the basement storeroom, which is open joisted.

The stairway is constructed of timber, and the walls and partitions to the stairway enclosure are of sound traditional construction. The under-stair cupboard is used by the cleaners and the care staff to store small quantities of consumables and cleaning equipment; the cupboard is kept locked shut.

The doors to the ground floor rooms and the bedrooms on the first floor are solid, well-fitting timber doors. None are fitted with self-closing devices.

The main entrance door is secured by a key-operated lock, which can be opened from the inside without the use of a key. The rear door from the dining room, which leads into the enclosed garden, is secured by a thumb turn security lock.

The premises are provided with a Category LD2 Grade D system in accordance with BS 5839-6. The system consists of smoke alarms fitted in the entrance hall on the ground floor and on the first floor landing, and a heat alarm in the kitchen, all of which are interlinked.

No 'FIRE EXIT' signs or fire safety notices are provided. There is no emergency lighting.

A fire blanket is provided in the kitchen.

## Comments and Recommendations

Although there is a second floor and basement, the only habitable rooms are on the ground and first floors. Therefore, the recommendations are based on those applicable to a two storey house.

The ceiling to the basement storeroom should be underdrawn to provide 30 minutes' fire resistance or, alternatively, a heat alarm should be fitted in the storeroom and be linked to the smoke and heat alarms.

The existing solid, well-fitting doors to the lounge, dining room, laundry and bedrooms will provide a notional 15-20 minutes' fire resistance and are considered satisfactory in a small house of this nature.

The door to the under-stair cupboard is a solid well-fitting door and is considered to be satisfactory.

There is no recommendation to fit self-closing devices to any doors, including bedroom doors.

Smoke and heat alarms, which are part of a Grade D fire detection and alarm system, are considered satisfactory, but coverage of the system should be extended to, at least, provide smoke alarms in both the dining room and lounge, and a heat alarm in the laundry room; further coverage to meet a Category LD1 standard is not seen as essential, given the nature of the residents (who can self-evacuate), the low fire risk and the simple layout of the building.

There is no 24-hour staff presence, but remote transmission of alarm signals to an alarm receiving centre is not considered essential given the nature of the residents.

There is no recommendation to provide emergency escape lighting or 'FIRE EXIT' signs and notices.

No additional fire-fighting equipment is considered necessary.

## Appendix 10: Case study – Dwelling converted for supported housing (high risk)

This three storey house is of traditional construction, with brick exterior, timber floors, lath and plaster ceilings and a pitched, slate roof. It was converted into its current use in the 1970s.

The house comprises a kitchen, dining room, lounge, utility room, boiler room and small office on the ground floor. The ground floor rooms are accessed off the entrance hall, which leads to the stairway to the upper floors.

On the first and second floors, there are six bedrooms for residents, bathrooms and WCs; all rooms open directly onto the stairway landings. A further bedroom is provided on the second floor, which is used by a member of staff. There is a roof void, which contains water tanks and which is accessed via a ceiling hatch on the second floor landing.

The premises are used to provide supported housing to six service users who have a mixture of learning and mobility disabilities. Each of the service users has their own bedroom and they share all common facilities.

None of the service users are capable of responding to fire alarm signals; they need the assistance and encouragement of staff to evacuate. Only one of the service users is severely mobility impaired, and, though he can be assisted by one member of staff, his evacuation would take around 10 minutes. In a fire drill, it was found that, with one member of staff on duty, the time for evacuation of all residents was 20 minutes. The premises are considered to be high risk due to the vulnerable nature of the service users.

There is a maximum of three staff on duty during the day from 09:00 to 16:00 hours. Overnight, there is one member of staff, who sleeps in the staff bedroom on the second floor. Additional on-call staff can be called to attend site in the event of an emergency.

Simple security locks are fitted to the bedroom doors, but these are openable on the inside without the use of a key. Care staff have key access to the bedrooms.

The kitchen has a gas cooking range, microwave oven, toaster and kettle. All cooking is either undertaken by staff or supervised by them.

## Existing Fire Prevention Measures

Fire prevention in the house is of a standard that would normally be expected in such housing. For example:

- The fixed electrical installation in the premises is inspected and tested every five years.
- The gas supply is subject to an annual inspection and test.
- Smoking is not permitted in the premises.
- Portable appliances in the premises are inspected and tested annually.
- Heating is by gas-fired central heating with low pressure water radiators; the gas boiler is serviced annually.
- Portable heaters are not used or permitted in the residents' bedrooms.

## Existing Fire Protection Measures

The floors are traditional timber floors, and ceilings are of lath and plaster throughout, but these were underdrawn with plasterboard at the time of conversion to improve the fire resistance of the floors to 30 minutes.

The stairway is constructed of timber, and the walls and partitions to the stairway enclosure are of sound traditional construction, which was considered, at the time of conversion, to provide 30 minutes' fire resistance.

The doors to all risk rooms are the original fire-resisting doors fitted at the time of conversion, and do not have intumescent strips and smoke seals. Rising butt hinges are fitted on the doors to the ancillary facilities on the ground floor, but not to bedroom doors.

The main entrance door is secured by a key-operated lock, which can be opened from the inside without the use of a key. Other doors, which lead out from the ground floor, are secured by key-operated locks.

The premises are provided with a fire detection and alarm system with detectors in the circulation spaces and ground floor kitchen, lounge and utility room. The system incorporates manual call points and sounders in the circulation spaces and a control panel by the front door.

'FIRE EXIT' signs have been provided over the final exits, and fire action notices are provided adjacent to the fire alarm call points. There is emergency lighting in the stairway and circulation spaces.

Fire extinguishers have been provided on each floor level and there is a fire blanket in the kitchen.

## Comments and Recommendations



The fire resistance of the existing floors is considered adequate, as is the fire resistance of the walls and partitions protecting the stairway and exit route to the final exit via the main entrance door.

However, the doors to all rooms opening onto the stairway and escape routes will need to be upgraded by fitting intumescent strips and smoke seals, or replaced with new FD30S doors. The existing rising butt hinges are not considered adequate and will need to be replaced with suitable self-closing devices. Self-closing devices should be fitted to all bedroom doors.

The key-operated locks fitted to the rear exit doors should be replaced with simple, single action security devices, such as thumb turn devices. Alternatively, if security of residents is a concern, suitable management arrangements should be introduced to ensure that on-duty staff have access to keys to these doors at all times.

The existing fire detection and alarm system is not considered to provide adequate protection for residents and will either need to be upgraded to provide additional detectors to all bedrooms and all ancillary rooms not already covered, or be replaced with a new system. Additional sounders will be required to cover each bedroom. The system should meet the recommendations of BS 5839-6 for a Grade A Category LD1 system.

As there is a 24-hour staff presence, remote transmission of alarm signals to an alarm receiving centre is not considered essential, but may be of advantage during the night.

There are no recommendations to provide additional emergency escape lighting. Emergency escape lighting throughout the common circulation areas and escape routes is regarded as appropriate for a three storey building.

The existing provision of fire exit signage, which is regarded as unnecessary, detracts from the need to retain a homely environment and consideration should be given to its removal.

Fire action notices need only be provided in staff only areas.

Retaining the fire-fighting equipment is considered appropriate for use by members of staff.

When only one member of staff is on duty, with existing fire protection measures, the evacuation time is unacceptable. It is envisaged that each resident would need to be evacuated in succession. Upgrading of fire resistance is not considered to be sufficient to mitigate the risk.

Ideally, there should be a minimum of two staff on duty at all times. If this is impracticable during the night, the entire property should be protected by a sprinkler or watermist system.

# Appendix 11: Case study – Traditional three storey sheltered housing

The premises comprise a purpose-built block of flats, constructed in the late 1970s and providing sheltered accommodation over three floors. Construction comprises a steel/concrete frame, with concrete floors, brick/block exterior and internal walls, with a pitched tiled roof; there are three external elevations, set out around a rear open courtyard/garden.

The block comprises a total of 36 self-contained flats, of which 24 are one bedroom flats, 11 are two bedroom flats and one is a three bedroom flat, as follows:

- Ground floor: 15 flats and ancillary accommodation consisting of reception lobby, disused dining room, communal lounge with a kitchen, laundry room, scheme manager's office, plant room and boiler room, cleaners' room and refuse storage room with ventilated lobby to the ground floor corridor.
- First floor: 15 flats and ancillary accommodation consisting of a hairdresser, a cleaners' cupboard and small utility/kitchen.
- Second floor: 6 flats (one of which is a guest flat), plant room, lift motor room and access to the roof void.

There are three internal protected stairways providing means of escape from the upper floors. The flats and ancillary rooms are accessed directly off protected corridors on each floor, with access on the first floor to three escape stairways and access on the second floor to a single stairway.

The central stairway, which is accessed off the main reception lobby, provides access to all floors. The stairway opens into the reception lobby. The reception lobby contains the scheme manager's office, several chairs for use by residents and notice boards. There are two passenger lifts located adjacent to the central stairway in the reception, providing access to the first floor.

There are two additional protected stairways, one at each end of the accommodation wings, which only serve the first floor. These stairways discharge at ground level directly into the rear courtyard/garden.

A scheme manager is on site Monday to Friday from 09:00 to 14:00 hours. Originally, there was a warden living on site in one of the flats. However, the warden was withdrawn several years ago. All flats are provided with Telecare systems that permit communication with the warden or, if the warden is not present, a Telecare ARC.

The scheme provides sheltered accommodation for residents over the age of 55. There is a significant number of residents over the age of 70 in the premises, one of whom is in her 90s. There are currently four residents who are mobility impaired, two of whom require

mobility aids (scooters) to access their accommodation. Several residents are hard of hearing.

Two mobility scooters, used by the residents, are currently stored and charged in the escape corridors, one on the ground floor and one on the first floor, as there is no space available to store the scooters within the flats.

### **Existing Fire Prevention Measures**

Fire prevention in the premises is of a standard that would normally be expected in sheltered housing of this type. For example:

- The fixed electrical installation in the common parts is inspected and tested every five years. Fixed installations in flats are inspected and tested every 10 years, with a visual inspection carried out on change of tenancy.
- The gas supply is subject to an annual inspection and test.
- Smoking is not permitted in the common areas. Residents are permitted to smoke in their own flats and within the open courtyard/garden.
- Portable appliances in the common parts are inspected and tested annually under a portable appliance testing (PAT) regime.
- Heating in the common parts is by gas-fired central heating, with low pressure hot water radiators; the gas boiler is serviced annually. Separate heating and hot water systems are fitted in each of the flats; these are subject to annual inspection and servicing.
- Portable electric convector heaters are used in several common rooms and are subject to the PAT regime. Portable heaters in residents' flats are not considered.

### **Existing Fire Protection Measures**

The scheme operates a 'stay put' policy. There are no staff to assist with the evacuation of residents. During the day, when the scheme manager and any other staff may be on the premises, they would investigate the cause of a fire, summon, and meet, the fire and rescue service and assist with the evacuation of the common areas, if safe to do so.

The compartment floors and walls within the building are constructed of concrete and are in sound condition.

The six flats on the second floor are situated in dead end corridors, on each side of the central stairway (three flats in each corridor). In the roof void, the walls between the flats extend over the corridor and through the void to roof level to form three compartments on each side of the stairway. The walls between the individual flats and the corridor do not extend up through the roof. The ceilings to the corridors are double lined to provide 60 minutes' fire separation.

Vertical shafts containing utility services to each flat are located off the common corridors. These shafts are enclosed in fire-resisting structures and are fitted with 30 minute fire-resisting access doors, which are kept locked shut. The shafts are not sealed at floor level, which is considered satisfactory.

The escape stairways are accessed off protected corridors on each floor, providing two door protection to the stairways. The corridors on the ground and first floor are subdivided by cross-corridor doors, one set at the junction of each accommodation wing. The doors to the

stairways are the original fire doors and are fitted with intumescent strips, but not cold smoke seals. The doors to the stairs and cross-corridor doors are fitted with overhead self-closing devices.

The flat entrance doors are the original fire doors and are not fitted with intumescent strips, smoke seals or protected letterboxes. Flat entrance doors are fitted with concealed jamb self-closing devices. It was noted that several self-closing devices had been removed by residents.

The doors to the ancillary rooms on the ground and first floors are the original fire doors; these are fitted with intumescent strips but not smoke seals.

The doors to the communal lounge on the ground floor are held open on acoustic hold-open devices, which is considered satisfactory.

The door to the scheme manager's office and glazed window to the office in reception have been replaced and are not fire resisting.

The main entrance door is secured by an electronic lock, operated by a key pad, which is linked by an intercom system to each flat. A green 'break glass' override has been fitted on the inside of the door.

The exit doors from the communal lounge lead into the rear courtyard, and are fitted with push pads. The exit door from the laundry is secured by a thumb turn device. Means of escape are available from the rear courtyard/garden by means of a gate, which is secured by two draw bolts.

The final exit doors from the base of the two escape stairways are fitted with thumb turn devices.

On the ground and first floors, the maximum travel distance from the entrance door of any one flat to a final exit or protected stairway is 30m.

The single direction of travel from the furthest flat entrance door to the protected stairway on the second floor is 12m, which is more than the recommended benchmark standard of 7.5m.

The maximum travel distance from a flat entrance door on the ground and first floors to a cross-corridor door is 15m, which is more than the distance of 7.5m recommended in this guide. The ground floor flats have external doors, which open onto the garden.

The corridors and stairways have openable windows fitted, which could be used to vent smoke by the fire and rescue service.

There is a common fire detection and alarm system fitted, which is linked to an alarm receiving centre. The system comprises smoke detectors in the corridors and stairways, and smoke/heat detectors in the ancillary rooms. The system extends into all flats, with a heat detector and a sounder in each flat. Activation of any one device will sound the alarm throughout the premises, including the flats. Residents are advised on hearing the alarm to 'stay put' until the arrival of the fire and rescue service.

The system does not extend into the roof space.

Each flat is fitted with a Category LD2, Grade D system to BS 5839-6. The system consists of a smoke alarm in the hallway and a heat alarm in the kitchen. The alarms are connected, via the Telecare system, to a social alarm receiving centre.

Fire exit signage to the common escape routes is considered satisfactory. Information on the fire action notices in the common areas supports a full evacuation of all common areas.

Emergency lighting throughout the premises is considered adequate.

Portable fire extinguishers are provided in the corridors to the flats and in ancillary rooms; a fire blanket is provided in the kitchen.

### **Comments and Recommendations in Action Plan**

The compartmentation in the roof void above the flats needs to be addressed. The compartment walls between the flats and the corridors need to be extended through to roof level in order to complete the compartmentation to support the 'stay put' policy.

All flat entrance doors should be fitted with suitable self-closing devices. Any self-closing devices removed by residents should be replaced as a priority.

Due to the difficulties experienced by some residents in opening flat entrance doors fitted with concealed jamb self-closing devices, consideration should be given, in the long term, to replacing the spring-operated closers with more suitable over-head self-closing devices, or possibly swing-free type closers.

The flat entrance doors on the second floor should be replaced with new FD30S self-closing doors to compensate for the extended travel distance in the second floor corridors. In addition, as further compensation for the extended travel distance, the second-floor corridors should be fitted with automatic opening vents.

In the long term, the flat entrance doors on the ground and first floors should be upgraded by the provision of intumescent strips, smoke seals and protected letterboxes or, alternatively, the doors could be replaced with new FD30S doors. Also, in the long term, doors to stairways and ancillary rooms should be fitted with smoke seals.

The glazed window and door to the scheme manager's office should be replaced with new fire-resisting glazing and an FD30S self-closing door.

The fire risks within the reception lobby, which forms part of the means of escape from the upper floors, should be strictly controlled. Any seating permitted should preferably be non-combustible or, as a minimum, resistant to Ignition Source 5 of BS 5852; notice boards should be kept to a minimum or covered with glazing.

Additional cross-corridor doors should, in the long term, be provided on the first floor to reduce travel distance from any flat entrance door to a cross-corridor door to approximately 7.5m.

The mobility scooters should be removed from the common escape corridors. As a temporary measure, the scooters should be stored and charged in the communal lounge. In the medium term, additional storage and charging facilities should be provided. The disused dining room could be used for this purpose. The door between the room and the corridor should be replaced with a new FD30S self-closing door and be fitted with a powered

opening device. The existing heat detection in the room should be changed to smoke detection.

The existing fire detection and alarm system should be reviewed and reconfigured to support the 'stay put' policy. The alarm sounders in the flats should be removed or be reconfigured to only operate in the flat of fire origin. The sound pressure levels in the corridors to the flats should be reduced to ensure the common alarm is not audible within the flats.

The fire detection and alarm system in the flats should, in the long term, be upgraded to a Category LD1 system.

The thumb turns on the laundry fire exit and the doors from the base of the two escape stairways should be replaced with panic bars or push pads. The draw bolts on the gate from the garden should be replaced with a push pad.

Information on vulnerable residents who may not be able to self-evacuate should be maintained in a premises' information box, be kept up to date and made available to the fire and rescue service.

# Appendix 12: Case study – Extra care housing with need for person-centred approach for specific high risk residents

The premises are a purpose-built block of flats, constructed in 2010 and providing extra care housing on two floors. Construction comprises a steel/concrete frame, with concrete floors, brick/block exterior and internal walls with a pitched tiled roof.

There are a total of 60 self-contained flats, of which 40 are one bedroom flats and 20 are two bedroom flats. All flats are leasehold. The block comprises:

Ground floor:	30 flats and ancillary accommodation consisting of reception, kitchen, café, communal lounge, meeting room, library, scheme manager's office, laundry, mobility scooter store, plant rooms, residents' storerooms, boiler room, cleaners' rooms and refuse storage room.
First floor:	30 flats and ancillary accommodation consisting of a small lounge, meeting room, viewing gallery, roof garden, cleaners' cupboards, residents' storerooms and small residents' kitchen.
Roof void:	Small plant room, lift motor room and water tanks.

The premises are managed and operated by a private sector specialist housing provider. Staff employed by the housing provider are on site seven days a week, from 09:00 to 16:00 hours, and at weekends from 10:00 to 13:00 hours.

A separate care provider has been commissioned to provide individual residents' care packages. During the day, there can be up to five full time staff on duty. At night, there are two staff on duty, one awake and one asleep. One of the two bedroom flats is used by the on-duty care staff, and the lounge in the flat has been converted into an office for use by care workers during the day.

There are two internal protected stairways providing alternative means of escape from the upper floors. These stairways discharge directly to open air at ground level.

There are two passenger lifts, one in each of the lobbies to the protected stairways.

The flats and ancillary rooms are accessed directly off protected corridors on each floor. There are two sections of dead end corridors on the first floor that lead to flat entrance doors.

There is an open central accommodation stairway that provides access to the upper floor, which is open to a residents' viewing gallery and small roof garden, with seating provided in both areas. The stairway is separated from the corridors leading to the flats on either side by FD30S doors. The stairway is fitted with an automatic fire curtain on the top floor, which has been provided as part of a fire-engineered approach to separate the stairway from the

viewing gallery and allow alternative escape through the stairway into the protected corridors.

Seating is also provided in designated recesses off the main corridors, and these areas also contain bookcases and tables for use by residents. The seating areas are separated from the corridors on each side by fire-resisting, self-closing doors.

The scheme provides extra care accommodation in self-contained flats for older and vulnerable residents over the age of 65. A significant number of residents have individual care packages to address a variety of dependencies. These include severe to moderate mobility problems, dementia, sight and hearing difficulties and general health issues associated with this age profile.

The care packages vary, but, for some residents, the care received is similar to the care provided in a conventional care home. Many of the residents would be unable to self-evacuate in the event of a fire.

Staff have identified four residents who might be considered high risk, in accordance with the companies' resident profile information sheet, which classifies residents as low, medium or high dependency. These include:

- One resident who is a heavy smoker and who uses oxygen therapy equipment.
- One resident classed as a hoarder and unable to self-evacuate.
- Two residents with dementia, who need assistance with cooking, and one of whom also smokes in bed.

The use of mobility scooters and walking aids is prevalent. There is a purpose-built room on the ground floor for the storage and charging of mobility scooters. However, several residents choose to store and charge their scooters in their own flats.

The café and kitchen on the ground floor are operated by a separate company, which is responsible for undertaking its own fire risk assessment. The café is open to non-residents.

### **Existing Fire Prevention Measures**

Fire prevention in the premises is of a standard that would normally be expected in modern extra care housing of this type. For example:

- The fixed electrical installation in the common parts is inspected and tested every five years.
- The gas supply is subject to an annual inspection and test.
- Smoking is not permitted in the common areas. Residents are permitted to smoke in their own flats and within the gardens.
- Portable appliances in the common parts are inspected and tested annually under a PAT regime.
- Heating in the common parts is by gas-fired central heating, with low pressure water radiators and HVAC system; the gas boilers are serviced annually.
- Portable electric convector heaters are used in several common rooms and are subject to the PAT regime.



- The fixed electrical installation, portable appliances and heating systems in the flats are the responsibility of the leaseholders. However, the fixed electrical installation and heating system is inspected and tested on change of tenancy.

### **Existing Fire Protection Measures**

The scheme operates a 'stay put' policy. There are staff on duty 24/7, who could assist in evacuation of a resident in the event of a fire in their flat; during the night, there are two care workers on duty. Staff or care workers would investigate the cause of a fire and would summon the fire and rescue service.

In the event of a fire in the common areas, staff would assist the residents to evacuate the common areas affected by fire. Residents in their flats would remain in their flats unless instructed to leave by the fire and rescue service.

In the event of a fire in a resident's flat, staff or care workers (at night) would go to the flat of origin and, if safe to do so, help the resident to evacuate to a place of safety and await the arrival of the fire and rescue service. No other evacuations would be undertaken, as residents of other flats would remain in their flats, unless instructed to leave by the fire and rescue service.

The compartment floors and walls within the building are constructed of concrete and are in sound condition.

The compartment walls between flats, and between flats and corridors, extend through the roof void to roof level. The enclosures of the two protected stairways also extend through the roof void up to true roof level. However, there are significant penetrations in compartment walls within the roof voids, where new services have been installed by contractors.

Vertical shafts containing utility services to each flat are located off the common corridors. These shafts are enclosed in fire-resisting construction and are fire stopped on each floor level. The corridor ceiling voids also contain utility services and are fitted with fire-resisting ceiling panels.

The escape stairways are accessed off protected lobbies leading to corridors to the flats on each floor, providing two door protection to the stairways. The passenger lifts are in the protected lobbies to the stairways. The ground and first floor corridors are sub-divided by central cross-corridor fire doors, which have been provided to separate the recessed seating areas from the remainder of the corridor.

The doors to the stairways, lobbies and corridors are the original FD30S self-closing fire doors. The fire doors to the lobbies to the stairway (providing access to the lifts), cross-corridor doors and doors to common rooms, such as the lounge, library, meeting room and café are held open on electromagnetic hold-open devices, linked to the fire detection and alarm system.

The flat entrance doors are FD30S and are fitted with overhead self-closing devices. Several flat entrance doors are fitted with swing-free door closing devices, and two residents, who use electrically powered wheelchairs, have fitted powered opening devices to their flat entrance doors. These devices are only linked into the fire detection and alarm system in the common areas.

Powered opening devices for use by wheelchair or mobility scooter users are also fitted to the front entrance doors, and to the doors to the mobility scooter store and laundry.

The main entrance door is secured by an electronic security system operated by a key pad, which is linked by an intercom system to each flat, the scheme manager's office and the flat used by the care staff. A green 'break glass' override has been fitted on the inside of the door.

The final exit doors from the common rooms, which lead into the rear garden, are fitted with single action push pads. Means of escape are available from the rear garden by means of a side gate, which is secured by a digital lock.

The final exit doors from the base of the two escape stairways are fitted with thumb turn devices.

The maximum travel distance from the entrance door of any one flat to a final exit, or to a door to a protected stairway lobby, is 25m.

The single direction of travel in the dead-end corridors on the first floor is 10m, which is slightly more than the recommended benchmark standard of 7.5m, but is considered satisfactory.

The maximum travel distance from the furthest flat entrance door on the ground and first floors to a cross-corridor door is 10m, which is slightly more than the distance of 7.5m recommended in this guide, but is considered satisfactory.

The corridors and stairways have openable windows, which could be used to vent smoke by the fire and rescue service. In addition, the two escape stairways have automatic vents fitted at the head of each stairway.

There is a common fire detection and alarm system, which is linked to an alarm receiving centre. The system comprises smoke detectors in the corridors and stairways, smoke/heat detectors in all ancillary rooms and smoke detection in the common roof void. The common system does not extend into the flats.

Activation of any one device will sound the alarm throughout the common parts; the on-duty manager and care supervisor also have pagers and will be alerted on activation of the common system.

Residents who are in the common areas at the time of an alarm are advised, on hearing the alarm, to make their way to the lounge until the arrival of the fire and rescue service.

Each flat is fitted with a Category LD2, Grade D system to BS 5839-6. The system consists of a smoke alarm in the hall and lounge, and a heat alarm in the kitchen. The system in each flat is connected, via a Telecare system, to the on-duty staff, but, if they do not accept the alarm signal in 60 seconds, the call is relayed to a social alarm receiving centre. The social alarm provider will also call the on-duty care staff on operation of the system. However, this facility is optional and is provided at an additional cost; leaseholders are not required to use this facility under their lease.

Fire exit signage in the common escape routes is considered satisfactory. Information on the fire action notices in the common areas supports a full evacuation of all common areas.

Emergency lighting is provided throughout the common parts and is considered satisfactory.

Portable fire extinguishers are provided in the common areas, the corridors to the flats and in all ancillary rooms, where necessary, and the provision is considered satisfactory for use by staff.

### **Comments and Recommendations in Action Plan**

The compartmentation in the roof voids needs to be addressed. All openings need to be fire stopped. Arrangements should be put in place for better control over contractors. If necessary, periodic inspections of compartmentation should be carried out.

The flats where either a swing-free self-closing device or powered opening device have been fitted to the flat entrance doors should be assessed to review the suitability of the fire detection and alarm system to operate the devices. The flat entrance doors should close in the event of a fire in the common areas and in the event of a fire in the individual flat. To ensure these devices operate effectively and close on operation of any fire detector, either, additional smoke detectors linked to the common system should be fitted in the hallway of the flats or, alternatively, the Part 6 system fitted in the flats should be linked to the devices to close the flat entrance door in the event of a fire inside the flat.

The digital locks fitted to the exit gates from the enclosed garden should be changed to allow the gates to be opened without the use of a key or code. Security devices on the final exit doors from the base of the escape stairway should be changed to push bars or push pads.

The existing travel distances in the premises, although slightly in excess of the recommended benchmark, are considered satisfactory and no additional recommendations are made.

The fire detection and alarm system in the flats should be upgraded to a Category LD1 system. Detection in every flat should be connected to the Telecare monitoring system, so that, in the event of a fire, or suspected fire, in a flat, the fire and rescue service are summoned immediately. This system not only provides protection for the residents of the flat of origin of a fire, but also provides protection to other residents by ensuring an early call is passed to the fire and rescue service.

No additional recommendations are made for emergency escape lighting, fire exit signage and notices or fire-fighting equipment.

Consideration could be given to the use of the lifts by staff for the evacuation of residents in the event of a fire in a resident's flat. In the long term, further consideration could be given to converting the lifts into 'evacuation lifts'.

Staff and care workers should be provided with training on induction and receive periodic refresher training on the action to take in the event of a fire and the use of portable fire extinguishers. It is not considered necessary to undertake full evacuation drills involving residents. However, the fire and evacuation procedures should be periodically tested and reviewed to ensure staff are adequately trained to respond in the event of a fire.

Where necessary, advice should be given to residents on the safe use of storing and charging mobility scooters in their own flats. Residents should be advised, in the first instance, to store and charge their scooters in the purpose-built facility provided on the ground floor. Where this proves to be impractical for the residents, they should be advised to store and charge the scooter in a room off the hallway of their flat, and not in the hallway.

It should be ensured that residents are given information on the action to take in the event of a fire in both the common areas and in their own flats to support the 'stay put' policy.

Information on vulnerable residents who may not be able to self-evacuate should be maintained in a premises information box, be kept up to date and be made available to the fire and rescue service on their arrival.

Person-centred assessments should be completed for the four high risk residents by staff and care workers. Where appropriate, this information should be passed to relevant external agencies and organisations, such as the fire and rescue service, who may be able to offer additional advice and support on appropriate prevention strategies to reduce the risk to the individual in the event of a fire in their own accommodation. This might include:

- Sprinklers or watermist systems;
- Personal protection watermist systems;
- Ignition resistant bedding;
- A safe smoking strategy and provision of metal bins for the safe disposal of cigarettes;
- A safe cooking strategy, which might include automatic isolation devices;
- Reduction in the quantities of combustible materials in the accommodation of the hoarder.

# Appendix 13: Case study – Fatal Fire<sup>17</sup>

## Summary

A fire occurred in a first floor flat within a privately-operated sheltered housing scheme. The fire resulted in the death of the elderly female occupier of the flat. The fire was first detected when the automatic fire detection within the flat activated and an alarm receiving centre called the fire and rescue service. On arrival, the fire and rescue service identified the flat of origin from the fire alarm control panel and entered the flat, where they extinguished a small fire in the bedroom. The elderly female resident was found in the bedroom and was pronounced dead by the ambulance service on their arrival.

The deceased was a heavy smoker, had mobility issues and had been diagnosed with dementia.

The most probable cause of the fire was careless disposal of a cigarette onto the bed.

## Building Description

A sheltered housing block of 36 self-contained flats on three floors, with a communal lounge, laundry and scheme manager's office on the ground floor. The scheme manager is on site Monday to Friday from 09:00 to 15:00 hours; there is no-one on site outside these hours.

There are two staircases and a passenger lift providing access to the upper floors. All flat entrance doors are FD30 self-closing fire doors. There is a common addressable fire detection and alarm system covering the common areas, including the access corridors and staircases; the system is linked to an alarm receiving centre. The system extends into each of the flats, with a smoke detector in the hallway and a heat detector in the kitchen. There is an addressable fire alarm sounder in the base of each detector.

Each flat is fitted with a separate Grade D LD2 system, with a smoke alarm in the bedroom and the lounge; the alarms are not remotely monitored. Each flat has an internal protected hallway and acceptable distances of travel to the front entrance doors.

The elderly female resident occupied a one bedroom flat on the first floor of the block.

## Sequence of events

At approximately 17:30 hours, the resident's carer visited the flat for her second visit of the day. The female resident was in her chair in the lounge and, as normal, after the resident had finished her evening meal, the carer helped the resident to get ready for bed and

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<sup>17</sup> While the circumstances outlined in this case study represent a collage of actual fatal fires, they do not relate to any single specific fire, nor do the measures that might have precluded the fatality imply any criticism of any party involved in the circumstances of such a fire.

assisted her into bed. She prepared a cup of tea and left drinks and snacks on the bedside table, alongside an empty plate which the resident used as an ashtray. The carer emptied the ashtray by the chair in the lounge, which was full, and before leaving, the carer gave her a lit cigarette and placed a packet of cigarettes and a lighter on the table by the bed. The carer left the flat at approximately 18:30 hours.

At 22:12 hours, the common automatic fire detection system actuated; the alarm receiving centre passed the call to the fire and rescue service at 22:15 hours. Two fire appliances were dispatched and arrived on site at 22:24 hours; the fire crews went to the fire control panel to investigate and found it showing a fire in Flat 17.

The crews entered the flat to find the bedroom heavily smoke logged and a small smouldering fire involving the bed and bedding. They extinguished the fire and found the elderly resident on the floor of the bedroom. It was apparent to the crews that the female was deceased; she was therefore left in place for examination by ambulance crews. The cause of death was confirmed by the coroner to be smoke inhalation.

### **Fire Investigation – Scene Examination**

A fire investigation officer attended the incident at 23:00 hours and carried out an examination of the scene. The entrance hallway, the lounge and the kitchen were lightly smoke stained. The single bedroom was heavily smoke stained. This is consistent with information from the crews who attended and who had found, when they entered the flat, that the doors opening onto the hallway from the lounge and kitchen were fully open and the door to the bedroom was partially closed.

A smoke detector was found on the ceiling in the hallway and, on investigation, it was evident that it was this detector that had operated to raise the initial alarm. The domestic smoke alarm in the bedroom was sounding when crews entered the bedroom.

The bedroom itself was heavily smoked logged. There was fire and smoke damage caused by direct burning to the bedding and mattress on one side of the bed. The clothing of the deceased was also slightly fire damaged, and articles of clothing found underneath the bed were also damaged by fire and smoke.

A disposable cigarette lighter was found in the bed, together with another lighter, a packet of cigarettes and a plate, with several used cigarettes, on the bedside table. There was evidence of burn marks on the carpet around the bed, consistent with cigarette burns. Burn marks, caused by cigarettes, were also found on the armchair in the lounge, on the carpet around the armchair and on several items of clothing found in the lounge and the bedroom.

### **Conclusion**

Following the gathering of witness testimony and examination of the scene of the fire, the report concluded that the fire originated on the bed. The burn patterns on the bed indicated that the fire started on one side of the bed, most probably initially involving the bed linen. The most probable cause of this fire is careless disposal of smoking materials by dropping a lit cigarette onto the bedding.

There were no other viable ignition sources found in the area of origin.

### **Profile of deceased**

The deceased female resident, who was 75 years of age, had lived in the block for the past 10 years. She was a heavy smoker and had mobility issues; she relied on carers and family members to help her get in and out of bed. She occasionally used a mobility scooter to get to and from her flat, although her use of the scooter had become less frequent during the last year.

She had an independent care package and carers visited twice a day for an hour on each occasion, once in the morning and once late afternoon. The carers assisted with her general day-to-day living arrangements, which included getting her in and out of bed and helping her in and out of her armchair, where she spent most of the day. All her meals were taken in the chair and she had a wheeled table, adjacent to the chair. Although she had mobility issues, she could still access her kitchen and bathroom.

Over the past 3 years, staff and carers had noticed a gradual increase in the incidence of forgetfulness, which was possibly linked to diagnosed dementia.

She was a heavy smoker (estimated to smoke, on average, 40 a day). Family members would bring her packets of cigarettes and replacement disposable lighters on their weekly visits.

In her early years of residency, there had been incidences of her smoking in the common areas, which staff frequently had to remind her not to do. She regularly smoked in bed and in her armchair, and there was evidence of burn marks on her bedding, on her armchair and the carpet in both the bedroom and the lounge. Staff and carers had, on occasions, seen her drop lit cigarettes onto her chair and the carpet. Items of clothing were found in the bedroom, which also had cigarette burn marks on them.

She did little to keep her flat clean and tidy, she kept clothing on the floor of her bedroom and had a significant number of boxes and plastic sacks of old newspapers, magazines, cards and other combustible possessions in her bedroom and the lounge.

She was not the most social of residents and took little notice of staff, or her carers, who did try to give her advice on her smoking habits.

### **Person Centred Risk Assessment Considerations**

With hindsight, there was clear evidence available to both staff of the sheltered scheme, care staff and family members that this individual was at potential risk from fire. She was a heavy smoker, she was known to smoke in bed and had a history of careless disposal of cigarettes, both in the common areas and in her own flat. There was evidence of burn marks on her chair, bedding, carpets and on items of clothing.

The deceased had known mobility issues and she needed assistance to get in and out of bed. Therefore, staff, carers and family members would have been aware that, in the event of a fire, she would most probably not have been able to self-evacuate.

Her medical history also indicated that she had developed dementia, resulting in forgetfulness that probably resulted in a number incidences of careless disposal of cigarettes.

The fire loading in the flat was higher than normal, due to the resident's predilection to hoarding of papers, magazines and other combustible items in plastic bags and boxes.

### Potential Risk Reduction Strategies

1. Providing bedding, mattresses and furniture that would meet the recommendations of BS 7175 and BS 7176 in respect of ignition resistance.
2. Providing advice to the resident on fire retardant nightwear and the use of ignition resistant smokers' aprons.
3. The identification of risk associated with hoarding (as detailed in Appendix 6 of the guide).
4. Providing advice to residents and to carers to close internal doors at night (although, in this instance, this would not have saved the resident as the fire was in the bedroom).
5. The upgrading of the fire detection and alarm system within the flat to a Category LD1. In addition, it was essential that this system was remotely monitored through a social alarm system that transmits fire signals to a Telecare ARC. In this instance, this would have triggered an earlier call to the fire and rescue service than that provided by the smoke detector in the hallway of the flat.
6. The fitting of an automatic suppression system, such as a domestic sprinkler system or watermist system, or a personal protection system. However, in the case of a personal protection system, there would, arguably, be a need for a system in both the lounge and bedroom.
7. Potential referral to Adult Social Care.



# Glossary

This glossary sets out definitions to assist readers in understanding some of the technical terms used in this guide. In some cases, the definitions relate specifically to this guide and may therefore differ to some degree from more generically applicable definitions. The definitions are not exhaustive. More precise definitions may be available in other guidance.

<b>Access room</b>	A room through which the only escape route from an inner room passes.
<b>Alternative escape routes</b>	Escape routes sufficiently separated by either direction and space, or by fire-resisting construction, to ensure that one is still available, irrespective of the location of a fire.
<b>Almshouses</b>	Social housing, provided by registered charities, originally built for accommodating people in need, and now occupied by (commonly older) residents under a letter of appointment, who pay a weekly maintenance contribution.
<b>AOV (Automatically opening vent)</b>	A vent provided for smoke control in common parts, which opens automatically when smoke is detected by smoke detectors.
<b>Approved Document B</b>	Guidance issued by the Government in support of the fire safety aspects of the Building Regulations.
<b>Assured advice</b>	Advice given by a fire and rescue authority to a partner organization (e.g. to a housing provider) under a Primary Authority Scheme which must be considered by other authorities when carrying out their enforcement activities in relation to premises of the partner organization.
<b>Cavity barrier</b>	A construction provided to close a concealed space against penetration of smoke or flame, or provided to restrict the movement of smoke or flame within such a space.
<b>Combustible material</b>	Material that can be burned.
<b>Common parts</b>	Those parts of specialized housing (whether blocks of flats or houses), used by occupants of more than one dwelling unit for access and egress.
<b>Competent person</b>	A person with enough training and experience or knowledge and other qualities to enable them properly to assist in undertaking the fire safety measures recommended in this guide.
<b>Compartmentation</b>	Sub-division of a building by fire-resisting walls or floors for the purpose of limiting fire spread within the building.
<b>Compartment wall or floor</b>	A fire-resisting wall or floor that separates one fire compartment from another.
<b>Dead end</b>	Area from which escape is possible in one direction only.
<b>Emergency escape lighting</b>	Lighting that provides illumination for the safety of people leaving the building when the normal lighting fails.
<b>Escape route</b>	Route forming part of the means of escape from any point in a building to the final exit.
<b>Evacuation lift</b>	A lift that may be used for the evacuation of people with disabilities, or others, in a fire.
<b>Extra care housing</b>	For the purpose of this guide, any housing of a similar nature to sheltered housing (though sometimes including residents with disabilities that are not age related), but with managed on-site

	care and support service, commonly on a 24-hour basis. This includes premises described as very sheltered housing, “housing with care”, “assisted living” and “integrated care and housing (ICH)” or, where support is linked to a care home, “close care housing”.
<b>Final exit</b>	An exit from a building from which people can disperse in safety, and beyond which they are no longer at danger from fire or smoke.
<b>Fire compartment</b>	A part of a building constructed to prevent the spread of fire to or from another part of the building.
<b>Fire damper</b>	Mechanical or intumescent device within a duct or ventilation opening, which is operated automatically in the event of fire, to prevent the passage of fire. (Where there is a need to prevent the passage of smoke, the fire damper needs to satisfy additional criteria.)
<b>Fire-fighting lift</b>	A lift, designed to have additional protection, with controls that enable it to be used under the direct control of the fire and rescue service when fighting a fire.
<b>Fire-fighting shaft</b>	A fire-resisting enclosure containing a fire-fighting stair, fire mains, fire-fighting lobbies and, if provided, a fire-fighting lift.
<b>Fire load</b>	Quantity of heat that could be released by the complete combustion of all the combustible materials in a space.
<b>Fire main</b>	Water supply pipe installed in a block of flats for fire-fighting purposes, fitted with landing valves at specific points. In specialized housing, the main is normally ‘dry’, in which case it is fitted with inlet connections at fire and rescue service access level, so that it can be charged with water from pumping appliances.
<b>Fire prevention measures</b>	Measures to prevent the outbreak of a fire.
<b>Fire protection measures</b>	Measures taken in the design or equipment of buildings to reduce the danger from fire (after it occurs).
<b>Fire resistance</b>	The ability of a component or construction of a building to satisfy, for a stated period of time, some or all of the appropriate criteria of relevant fire test standards.
<b>Fire stopping</b>	A seal provided to close an imperfection of fit or design tolerance between elements or components, to restrict the passage of fire and smoke.
<b>Fire-resisting door</b>	A door, together with its frame and furniture, provided for the passage of people, which, when closed, is intended to restrict the passage of fire and smoke to a predictable level of performance.
<b>Fire-resisting door – Notional FD30 door</b>	A door assembly that satisfied the current specification, or fire resistance test, for 30 minutes at the time of construction of a block of flats or manufacture of the door.
<b>Fire-resisting door – Replacement FD30S door</b>	A door assembly that has been independently certificated by a UKAS-accredited fire test laboratory as satisfying the relevant test requirements for the 30 minutes integrity and control of the passage of smoke at ambient temperature.
<b>Fire-resisting door – Upgraded FD30S door</b>	A ‘notional FD30’ door, fitted with intumescent strips and smoke seals, and with any other necessary work carried out, such that it may reasonably be anticipated that it would satisfy the relevant test requirements for the 30 minutes integrity and control of the passage of smoke at ambient temperature.

<b>Foyer accommodation</b>	Accommodation (similar to a hostel) for young people, who are homeless or in housing need, and want to develop skills and prepare for independent living.
<b>General needs block</b>	A block of flats intended for occupation by members of the general public and not those of a specific demographic or vulnerability.
<b>Habitable room</b>	A room used, or intended to be used, for dwelling purposes (i.e. a lounge or bedroom).
<b>Inner room</b>	A room from which escape is possible only by passing through another room (the access room).
<b>Intrusive fire risk assessment</b>	A fire risk assessment in which, by means of destructive exposure, access is obtained to view concealed construction.
<b>Material alteration</b>	An alteration to the building that significantly affects (usually lowering or with the potential to lower) the level of risk to people from fire.
<b>Means of escape</b>	A route(s) provided to ensure safe egress from the premises or other locations to a place of total safety.
<b>Mixed system</b>	A fire alarm arrangement whereby two different Grades of fire detection and alarm system are provided within the same premises for the purpose of satisfying two different fire safety objectives (e.g. in sheltered housing, a Grade D system within each flat to give a warning to residents of a fire in their own flat, in conjunction with a Grade A communal fire alarm system to give a warning of fire within common areas).
<b>Non-intrusive fire risk assessment</b>	A fire risk assessment that does not involve destructive exposure (but normally will still involve opening a sample of accessible service riser doors and, for example, inspections, where feasible, above accessible demountable ceilings, etc without use of tools). The inspection of the building includes reasonably accessible roof voids
<b>OV (Openable vent)</b>	A vent provided for smoke control in the common parts, which is opened by the fire and rescue service by means of hardware or a control (which may be located remotely) provided for the purpose.
<b>Person-centred planning</b>	Person-centred planning is a way of asking what people want, the support they need and how they can get it. It assists people in leading an independent and inclusive life.
<b>Personal protection system (PPS)</b>	Automatic fire suppression system, fitted with one or more watermist nozzles and intended to suppress a fire in a defined area of a dwelling.
<b>Protected corridor or stairway</b>	A corridor or stairway that is adequately protected from fire in adjoining accommodation by fire-resisting construction.
<b>Protected entrance hall or landing</b>	A circulation area consisting of a hall or space in a flat, enclosed in fire-resisting construction (other than any part that is an external wall of the building).
<b>Protected route</b>	An escape route that is adequately protected from the rest of the building by fire-resisting construction.
<b>Protected stairway</b>	A stairway that is adequately protected from the rest of the building by fire-resisting construction.
<b>PV (Permanent vent)</b>	A permanently open vent provided for smoke control in the common parts.
<b>Reasonably practicable measures</b>	Measures that reduce fire risk to an extent where the cost and effort to reduce the risk further would be grossly disproportionate

	to the remaining risk.
<b>Relevant person</b>	Any person lawfully on the premises and any person in the immediate vicinity who may be at risk from a fire in the premises (but not fire-fighters carrying out operational duties).
<b>Responsible person</b>	The person (often a body corporate) defined in Article 3 of the Regulatory Reform (Fire Safety) Order 2005, on whom the fire safety duties set out in the Order are imposed (e.g. in a workplace, the employer).
<b>Self-closing device</b>	Device that is capable of closing a door from any angle and against any latch fitted to the door.
<b>Sheltered housing</b>	For the purpose of this guide, any housing in which each dwelling is designed and constructed for the purpose of providing self-contained residential accommodation for elderly people, and where some form of assistance is available at all times, though not necessarily from persons on the premises. This includes premises sometimes described as retirement housing and similar blocks of flats, regardless of whether flats are rented or are leasehold.
<b>Simultaneous evacuation</b>	Procedure in which all parts of a building that incorporates specialized housing are evacuated following the giving of a common alarm of fire.
<b>Smoke alarm</b>	Device containing within one housing all the components, except possibly the energy source, for detecting smoke and giving an audible alarm.
<b>Social Alarm System</b>	A system that provides facilities for alarm initiation, signal transmission, alarm reception, reassurance and assistance, for use by elderly and other persons considered to be living at risk. (These are commonly described as “Telecare” systems.)
<b>Specialized housing</b>	Accommodation that provides independent living for occupants who are wholly or mainly limited to a specific section of population and who are likely to require additional measures to secure their safety in the event of fire, including, but not limited to, accommodation provided for elderly people, physically disabled people, people with cognitive difficulties and people with mental health problems.
<b>‘Stay put’</b>	An evacuation strategy based on the principle that only the residents of the flat of fire origin need to escape initially, while other residents may remain in their own flats. This is the normal evacuation strategy in sheltered and extra care housing, but not generally other forms of supported housing.
<b>Supported housing</b>	Housing (excluding sheltered housing and extra care housing) designed for vulnerable people with common characteristics, living as part of a community with support that is normally, but not necessarily, provided on a 24 -hour basis. For the purpose of this guide, this includes housing for groups of people with learning or physical disabilities and mental health issues, but not “hostel”-type accommodation for groups such as homeless people, victims of domestic violence or ex-offenders. Residents may live independently or as a single group.
<b>Travel distance (within a specified area, such as a flat, the hallway of a flat or a common corridor)</b>	The actual distance to be travelled by a person from any point within the specified area, to the nearest exit leading to a place of relative safety in which the person is in no immediate danger from fire.

<b>Unventilated corridor or lobby</b>	Corridor or lobby with no vents or other means of smoke control.
<b>Ventilated corridor or lobby</b>	Corridor or lobby with means of smoke control.
<b>Visual Alarm Device</b>	A component of a fire detection and alarm system, not incorporated in the control equipment, which incorporates a flashing light that is used to give a warning of fire.
<b>Voice Sounder</b>	An audible fire alarm device that contains all the necessary components, except normally a power supply, to generate and broadcast recorded voice messages. (Voice sounders cannot normally be used to broadcast live speech.)

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- Building Regulations 2010
- Fire and Rescue Services Act 2004
- Furniture and Furnishings (Fire) (Safety) Regulations 2010
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- The Regulatory Reform (Fire Safety) Order 2005

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- BS 5266-8 (BS EN 50172: 2004). *Emergency escape lighting systems.*
- BS 5446-3 *Detection and alarm devices for dwellings. Specification for fire alarm and carbon monoxide alarm systems for deaf and hard of hearing people.*
- BS 5839-1 *Fire detection and fire alarm systems for buildings - Code of practice for design, installation, commissioning and maintenance of systems in non-domestic premises.*
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- *Personal Protection Systems (PPS). Guidance on the use, deployment and limitations of Personal Protection Watermist Systems in the homes of vulnerable people. BRE Global*

## Further reading

- Fire Safety in the Home. TSA. <https://www.tsa-voice.org.uk/e-learning>
- TSA Quality Standards Framework. TSA. <https://www.tsa-voice.org.uk/standards>

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