

HE APPLICATION of inclusive design principles is enabling disabled people to enter and use buildings more easily, and yet little guidance is available on the evacuation needs of disabled people living in tall residential buildings. It is known that people with physical impairments can take between two and nearly four times longer to evacuate a residential building¹ so, with more than 18% of the population having some sort of disability or long-term illness², this is an area that needs careful consideration.

The complexities of high-rise buildings create specific risks compared with houses and flats in low-rise buildings. With increasing numbers of disabled and older people living in tall buildings, it is necessary to explore whether existing building design and post-occupancy management procedures adequately address their needs.

Research carried out by the author has found that, while existing fire safety law clearly sets out duties in legislative terms, the practical application of this may not be effectively reaching those considered to be the 'responsible person'.

#### New research

To explore the issues, the research involved interviews with professionals, such as fire engineers and policymakers, to examine:

- the frequency of incidents that resulted in the need to evacuate domestic buildings
- professionals' views on whether the design of the building had facilitated or hindered egress of disabled people
- whether existing guidance is felt to be sufficient to secure the safety of disabled people

In addition, questionnaires were sent to groups representing disabled people to establish their perspective on current fire safety guidance; the degree to which disabled people were consulted when fire risk assessments were carried out; and the likely behaviours of disabled people in the event of a fire.

The results of the research highlighted three main areas of concern: that responsible persons and residents do not have sufficient awareness of fire safety; that risk assessments may not consider the specific risks associated with tall buildings and the functional abilities of residents living within them; and that disability is not high enough on the fire safety agenda in tall domestic buildings.

## Current legislation

The Regulatory Reform (Fire Safety) Order 2005 and the Housing Act 2004 were seen by the interviewees as the most important pieces of legislation relating to fire safety in England and Wales. These pieces of legislation were acknowledged as fairly new, compared with legislation for public buildings and places of employment. This suggests there is still much to learn about the construction and fire safety features in domestic tall buildings, as well as the behaviours of residents.

Both the Fire Safety Order and the Housing Act are limited in their scope, since they apply primarily to communal areas of buildings and not individual domestic premises. While they specify clear duties, there is also little guidance on how these are applied together. It could be argued that, if policymakers are not linking the two pieces of legislation, professionals applying the legislation may not be able to accurately implement the requirements, leaving duties subject to the personal interpretation of those responsible for their implementation.

The interviewees also felt that housing landlords are, for the most part, not aware of their duties in relation to

fire safety and, in particular, carrying out risk assessments. The legislation is supported by a number of guidance documents, but none specifically relate to, or cover, dwellings in tall buildings. The relatively new nature of the legislation may be why managers and owners of tall buildings have limited awareness of their content and practical application. Given that the legislation is not prescriptive, the need to carry out a risk assessment was seen as the most critical component.

### Responsible persons

The responsible person is key to carrying out risk assessments and being accountable for fire safety. But, despite this vital role, identifying the responsible person remains open to interpretation. Tall buildings, particularly in the social housing sector, are owned and managed by large organisations; identifying one person who has ultimate control of a building can be difficult.

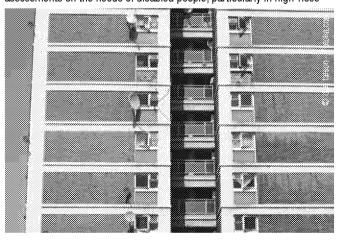
There appears to be a clear divide between the building manager's responsibilities (to ensure that the building has sufficient fire safety features and that adequate procedures for evacuation or staying put are in place) and the responsibility of residents to ensure that their behaviours comply.

The legislation does not appear to refer to the responsibilities of residents in a dwelling, and yet it would seem that, in reality, residents have a significant role to play, both in understanding their own needs and making arrangements to secure their safety, and in complying with fire safety management procedures. In this respect, there is no difference for disabled residents.

However, while the resident has a responsibility to ensure they do not amend features of the building to the detriment of fire safety, it remains the responsibility of the landlord or building manager to inform residents of these issues.

To support this, disability organisations that took part in the research placed the most responsibility for securing safety of disabled residents in tall buildings on the landlord. In addition, half of the respondents felt that the resident also has a role to play, while 40% of the respondents thought that the fire service also had responsibilities. The responsibilities of disabled people in securing their own safety are in line with an ethos to promote independence and accountability.

There is a lack of specific guidance for those carrying out risk assessments on the needs of disabled people, particularly in high-rises





## wireless detect SRC 3000

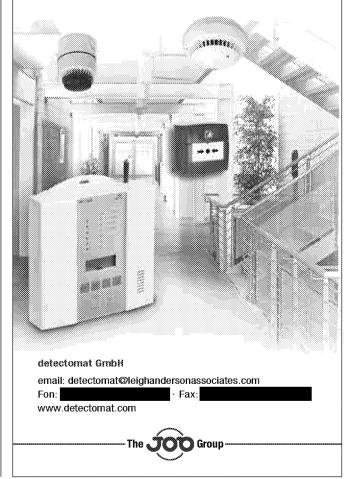
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The actions disabled people should take in a fire, such as staying put or using lifts, are often unclear

### Guidance and training gaps

The risk assessment is central to ensuring fire safety, and those carrying out assessments must have a good understanding of the potential risks and their management. However, a gap exists in the specific training available for those needing to undertake risk assessments in tall buildings containing dwellings.

The difference between domestic properties and public buildings was highlighted by the research; it is arguable that support should be available to bridge these differences, particularly while relevant legislation and duties are new to the sector.

It is also of concern that, while reference is made to risk assessments needing to be carried out by skilled people, there is no description that quantifies this or provides a minimum standard. There are currently no known training courses that specifically cover risk assessments for tall buildings containing dwellings, and so it could be difficult for risk assessors to develop the specific skills needed.

In addition, there appears to be a critical gap in the legislation and guidance covering the assessment and provision for disabled residents living in tall buildings. There are implications for disabled residents where correct provisions are not made. Disabled people can take a long time to negotiate stairs, and this could limit the flow of traffic evacuating a tall building where only one stairwell exists. This could compound difficulties that firefighters would face using the stairwell to reach the fire.

## Evacuation procedures

The challenge in implementing inclusive design principles and promoting independence appears to lie in recognising that not all people can manage certain tasks on their own.

Assuming that good design alone can enable all people to exit a building independently could have devastating outcomes, if inaccurate. The Fire Safety Order requires all users of a building to be considered in a risk assessment, but makes no specific reference to disabled residents – yet an understanding of disability is critical in ensuring that disabled residents are accounted for in an appropriate and respectful way.

Provision of information is critical in raising awareness of fire safety precautions and evacuation procedures, as well as influencing behaviour. The responses from disability organisations that took part in the research reflect the limited understanding of the differences between dwellings and public buildings, where moving to a refuge space is often recommended.

The responses to the questionnaires indicate little clarity on what actions disabled people should take in the event of a fire. Most disabled organisations would advise their members to move to a refuge space. However, while this practice is common in public buildings, it is less so in dwellings, and therefore could be an indication that assumptions are being made about fire safety procedures.

Only seven out of the 20 disabled organisations that responded to the questionnaire said they would advise their members to use a lift that was safe to use in the event of a fire, and only six said they would advise members to stay in their home while a fire is extinguished. Five organisations would advise their members to descend the stairs, even if this is difficult for the resident. These responses indicate a lack of confidence in, or limited awareness of, evacuation lifts and compartmentation.

### Disability issues

Awareness of the needs of disabled people is clearly increasing, although there is a lack of specific guidance for those carrying out risk assessments on the needs of disabled people. There are implications for disabled residents, particularly those with mobility impairments, living on upper levels of tall buildings.

More than 50% of the responses received from disability organisations stated that disabled people were not consulted when evacuation procedures were developed – indicating that they are likely to be excluded from the risk assessment. It was clear from some responses received from disability groups that the issue of fire safety is rarely raised, if at all. This indicates limited engagement and consultation with disabled people and their representatives and advocates.

It would seem that, in reality, disabled residents may compromise their safety by choosing to live in buildings that cannot accommodate their individual needs safely in the event of a fire. As an example, where adequate compartmentation is not part of the original construction of the building, it could take a significant time for a mobility-impaired person to descend many flights of stairs in an emergency. That person's safety would be at risk while they evacuated, and they might restrict the flow of ambulant people also attempting to descend the stairs.

There has to be a clearer understanding of the implications that living in tall buildings will have. It may be

appropriate for a certain element of risk to be accepted by a disabled resident in order to live in their chosen location. However, this needs to be an informed choice and not a decision made on the assumption that provisions are in place to secure their safety in a fire. There is a need to empower disabled people by providing information on building features and limitations.

Specifying that disabled people should not live above ground-floor level acknowledges that existing fire safety features of many buildings are not inclusive. Resolving this should be a priority, as opposed to placing restrictions on those who cannot meet current evacuation processes. Both the interviewees and disability organisations that participated in the research felt that further clarification and guidance is needed on the issue of disabled people living in tall buildings, and the impact in the event of a fire.

### Recommendations

The research highlighted that fire safety legislation and practice does not yet adequately provide for the safety of disabled people living in flats in tall buildings. While disability equality is high on the social agenda, building construction and management is still catching up. It is important to raise the profile of fire safety and the specific risks associated with certain dwelling types. This should not cause alarm but must allow for risks to be managed and processes to become truly inclusive.

Both the complex nature of highrise buildings and the behaviour of residents need to be considered by those who carry out risk assessments. Communicating the outcome of risk assessments, in the form of fire safety procedures and resident responsibilities to maintain fire safety features, is key. There needs to be a communicative, cyclical approach to managing fire safety: carrying out risk assessments, engaging with all residents (including those with disabilities), producing fire safety procedures, and circulating these to all residents and relevant organisations, then monitoring fire risks and updating risk assessments.

It is also necessary to examine further the relationship between the needs of disabled people and the features and barriers of tall residential Further studies buildings. better inform the development of legislation, particularly in relation to the development of a holistic risk assessment and sector-specific guidance

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This article is based on research carried out by the author for an MSc in Accessibility and Inclusive Design at the School of the Built Environment, Salford University

#### References

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