

What are the Considerations When Installing Mechanical Vertical Access Solutions?

Vertical circulation within buildings is often about speed of transporting a large number of people, rather than the ease of circulation for disabled people; general purpose lifts are a mechanism for taking people to another level/s in an easy manner. There is a considerable amount of confusion when considering short rise lifts, the standard lift analysis works on numbers rather than numbers and *users*. We need to understand why lifts are needed, who will use them and how will they operate.

So why do we need lifts? They are an alternative to the stair, but not a replacement. Lifts are used by a much larger population than wheelchair users. Other users are people with, severe asthma, visual impairments, mobility impairments, people of short stature and even those who have emotional issues who may find staircases at busy times very frightening.

Of late, there is an increased interest in supplying platform lifts for a variety of projects but do they meet the requirements of Building Regulations, or moreover, the equality legislation? Architects are responsible for ensuring that designs adhere to Building Regulations and as professionals meet their responsibilities under the legislation. The legislation is slightly more complex, in that, public sector duties may be relevant, as is the need to anticipate users needs, however, I will cover that in more detail later.

Where applicable, Building Regulation Approved Document M requires access to all levels and states that *ADM 3.21 For all buildings, a passenger lift is the most suitable form of access for people moving from one storey to another*, unless there are exceptional circumstances; *ADM 3.22 where a passenger lift cannot be accommodated, a vertical lifting platform (platform lift) ... may be considered*; this is obviously based on reasonableness. However, what does this actually mean?

Some of the main aspects to consider when deciding upon a platform lift rather than a passenger lift are type, usage, size, location and functionality. Furthermore, the overall cost of a project, may or may not be relevant.

Presently, there are three critical differences between a platform and a passenger lift. Firstly, a platform lift requires a continuous pressure on the travel button, which for some is impossible to operate. Many do not have the dexterity or strength to do so and some who have cognitive impairments may not comprehend the action with the resultant movement and panic.

Secondly, the speed of a platform lift is much slower and therefore the numbers who can be transported is greatly reduced. These elements impact upon an individual's capacity for independent use and the ability to reach destinations within a comparable time to able bodied users. Lastly, the standards required for passenger lifts are outlined within the lift directive whereas platform lifts fall under the machinery directive. The lift directive is concerned with lifts in buildings, ensuring high level of safety for users, whilst the machinery directive is concerned *with assemblies, fitted with or intended to be fitted with a drive system*, hoists and other such mechanisms for building sites and the like fall under this category.

Demographics should also be considered. What are the numbers, types of disabilities, peak times (classroom changeover) and is there public access; all of these factors will influence the type and size of lift.

Regarding lift car size, ADM and BS8300 both state that the minimum size is 1100 X 1400mm for a wheelchair user and assistant. However, *BS8300 8.3.3.3* advises that *lift sizes should be chosen to suit the anticipated intensity of use of the lifts and needs of disabled users*.

The 1100 x 1400mm dimension is out of date; many motorised wheelchairs are 1500 – 1600mm long and will not fit into this minimum space. Whilst the Equality Act has no applicable technical standards, a minimum 1100 x 1400mm lift car may not be adequate,

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particularly in public buildings. There is also an anticipatory duty for service providers; those installing lifts within public buildings must anticipate likely users and therefore, consider type, numbers and size.

Additionally, other sectors require different specifications such as Sport England and Department for Education. BB102 states that an 1100 x 1400mm lift car is only suitable for a primary, suggesting a lift of 2000 x 1400mm for secondary schools.

Let us consider compliance with Approved Document M (ADM). *ADM 3.21* makes it clear that *a passenger lift is the most suitable means of vertical access and should be provided wherever possible*, it also states that; *ADM 3.22 in exceptional circumstances for new developments with particular constraints (e.g. a listed building, or an infill site in a historic town centre), where a passenger lift cannot be accommodated, a vertical lifting platform (platform lift), although not equivalent to a passenger lift, may be considered as an alternative option to provide access for persons with impaired mobility.*

Where a platform rather than a passenger lift is provided, the reasons for this deviation from guidance within Building Regulation must be clear. Are there exceptional circumstances, as indicated above? However, even if the building is new and not within a confined site, there may be certain circumstances where it may be appropriate to install a platform lift. For example, in small units where there are no unique facilities at first floor, it may be considered reasonable.

As architects it is important that the reasons for installing a platform lift, rather than a passenger lift are justified, because a case will need to be made within the access strategy.

Interestingly, very few platform lift manufacturers supply, as standard, platform lifts with a car size larger than 1100 x 1400mm. Is this sufficient for the buildings' function?

The EA requires that a person is not discriminated against unreasonably and in the case of public buildings, receives a service in an equal manner, to the extent that, disabled people may need to be treated more favourably, in order to maintain equality. Lift types, numbers and sizes should therefore be chosen to suit the anticipated density, frequency of use and the needs of disabled people. If a disabled person cannot access services in the same manner as able bodied users, they may have a discrimination case under the legislation. Any peak times should also be taken into account so that *all* disabled people can, during changeovers, visitors times, etc, be able to reach their destination in a similar time, otherwise this could be seen as discrimination. Demographics should be analysed to help predict numbers of disabled people and others who will use the lifts.

In addition to establishing whether a full passenger or platform lift is to be installed, the following points should be considered when specifying lifting equipment:

- Meeting the requirements of the latest relevant BSEN 81 standard; where a lift exceeds the heights outlined in ADM.
- Provision of sufficient space to enter and leave.
- Is there a unique facility above ground level but only one lift; what happens in event of failure and how would that service be provided?
- If there is only one lift, how would disabled people be moved safely to ground level in the event of failure?
- Have the evacuation strategies been formulated ensuring safe evacuation of disabled people?
- Ensure all the detail; tonal contrast, mirrors, voice, tactile symbols, etc, meets requirements.

- Call buttons must be located at least 400mm BS8300 (500mm ADM) away from any perpendicular barrier.
- Be careful with key operated lifts; these are inaccessible to some and may result in discrimination. Security should be either remote fob or swipe card, not a key; it should also be able to be turned off, for community use or parents' evenings and the like.

The installation of lifting mechanisms is costly and area hungry, however, as explained above, the presumption is a full passenger lift, unless, in a Building Regulations context, there are exceptional circumstances. In relation to the EA, the *Approved Document Use of Guidance* clearly states on *3rd paragraph page 6* that *compliance with Part M of the Building Regulations does not necessarily equate to compliance with the obligations and duties set out in the EA*.

Architects must be clear that the installation specified is appropriate for Building Regulations and the duties of the client under discrimination legislation.

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