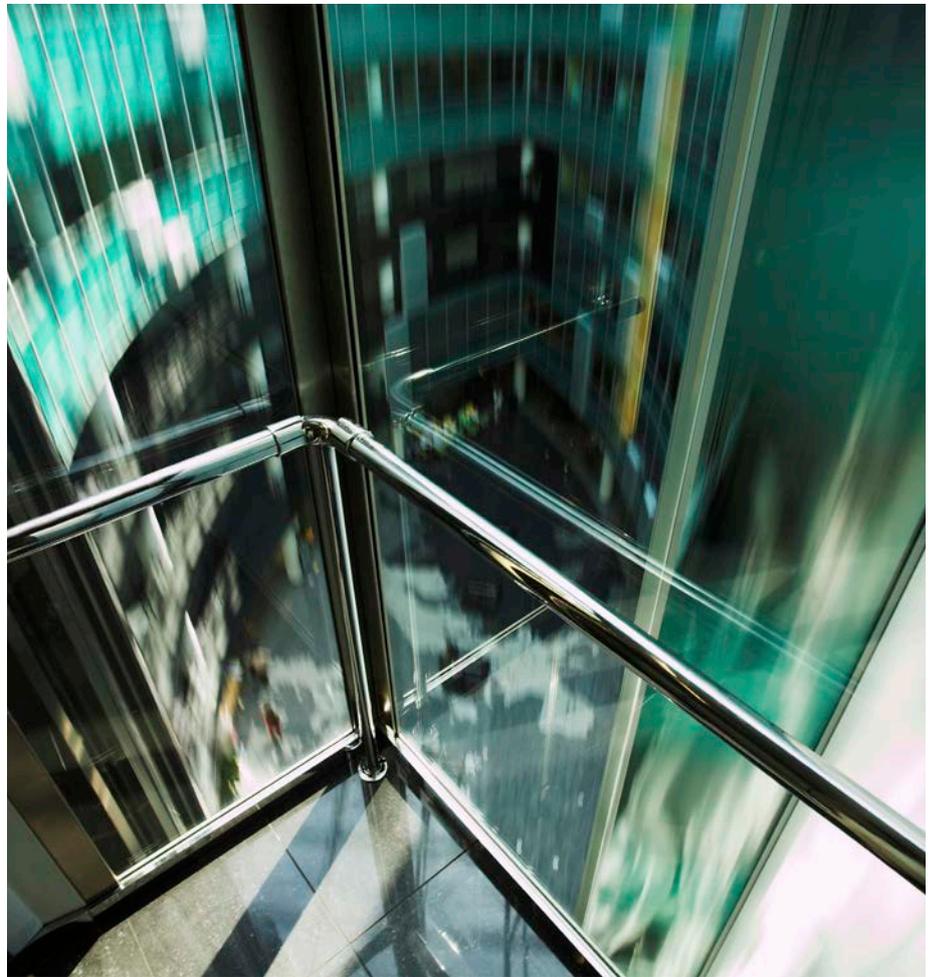


A simple guide to the requirements for Firefighting Lifts

A **Cundall Conversations** blog by Graham Barker



30th of April 2015 saw the publication of a revised Standard relating to Firefighting Lifts, EN 81-72:2015, which replaced EN 81-72:2003.

Almost a year has now passed since the revision was published, yet little seems to be known.

The Standard applies to the exclusive use of a passenger (or passenger/goods lift) by the fire service to carry firefighters and their equipment to the required floors, in the event of a fire.

Whilst much of the Standard remained unchanged from the previous version, the 2015 revision does contain updates providing us with the opportunity to re-acquaint ourselves with the latest thinking.

The number of Firefighting Lifts, and their location within the building, are determined by national Regulations and are an important tool for fire attack, transporting firefighters and equipment and for evacuation under the control of the firefighters.

A Firefighting Lift, unlike a normal lift, should be designed to operate for as long as is practicable when there is a fire in the building.

Here is our simple guide to the requirements for Firefighting Lifts, for full details please refer to the standard.

Lift design

Some of the key elements which need to be included within the Firefighting Lift design are:

- The minimum rated load of the lift is 630kg
- The minimum interior lift car dimensions is 1100 mm wide by 1400 mm deep
- The minimum clear opening entrance width is 800 mm
- If the lift is to be used for evacuation, and the use of a stretcher or bed, then the minimum rated load is 1000 kg. The minimum interior dimensions are 1100 mm wide by 2100 mm deep
- The lift is capable of reaching the top floor within a time of 60 seconds (for travels up to 200 m)

- All electrical equipment within the lift well is protected against water ingress to the appropriate IP rating
- A trap door is provided in the lift car roof for purposes of escape from the lift car by firefighters.
- Additional ladders are provided to facilitate escape from the lift car
- Additional lift control system features are required above that which would be incorporated on a non-Firefighting lift.

Building design

Some of the key elements required of the building design are:

- Measures are taken to minimise the ingress of water into the lift well, e.g.
- Drainage channels in front of each landing entrance
- Ramping up of the finished floor level in front of the lift entrance
- Where measures such as those above are not taken to prevent the ingress of water into the lift shaft, then measures are taken to prevent water build up in the pit e.g.

- Drains to prevent water reaching a defined level
- Permanently installed draining pumps to remove the water. The pumps are fitted outside of the lift shaft, and provided with a secondary power supply.

NOTE – as the water from fire hoses is of high volume and pressure, it may be appropriate to install pumps/drainage measures even when the measures to minimise ingress of water have been taken.

- The fire design strategy will determine the requirements for a Firefighting Lifts
- Fire resistance of doors, walls, etc. are in accordance with the fire regulations and fire strategy
- It is not automatically necessary for a Firefighting Lift to serve all floors within a building
- Where the distance between lift landing entrances is greater than 7 m, intermediate escape doors are provided
- Through-car lift arrangements with the firefighting entrance on either side are permitted
- Any compartment containing the lift machine and its associated equipment are provided with at least the same degree of fire protection as is given to the lift well
- A suitable fire resistant structure of the building is provided, including fire protected lobbies, fire detection and extinguisher systems etc.
- The firefighters lift is located in a well with a fire-protected lobby in front of every landing door. The area of each fire protected lobby is given by the requirements for the transportation of stretchers and the location of the doors in each single case
- If there are other lifts in the same lift well, then the common well fulfils the fire resistance requirements of a firefighters lift wells. This level of fire resistance also applies to the fire protected lobby doors and machine room
- Where there is no intermediate fire wall to separate the Firefighting



- Lift from other lifts in a common lift well, then all lifts and their electrical equipment have the same fire protection as the Firefighting Lift, to assist correct functioning
- A secondary power supply is provided, and located in a fire-protected area. Reliability of power supplies and circuitry is essential to the operation of the Firefighting Lift.

General

A few more general considerations are:

- The lift can be used as a normal passenger lift at any time other than in the event of fire
- To reduce the risk of the lift entrance being obstructed when the lift is required to operate on firefighters' service, its use for moving refuse or goods should be restricted.
- In the event of fire, lifts should not be used
- The Firefighting Lift's electric power supply cable(s) is fire protected

- The secondary supply may be an alternative supply from a separate substation, but more likely will be from a backup generator
- Post construction, maintenance procedures are put in place to check that firefighting lifts are correctly maintained and available for use when required
- If a sump pump is used, it is located outside of the lift shaft and have a secondary power supply.

I hope that this blog provides you with an insight into the changes to the Firefighting Lift requirements.

For further information refer to the standards, or contact the Cundall [Vertical Transportation team](#) on +44 (0)7803 518 282 or email g.barker@cundall.com.