



Lift Owner News

Subject: The use of mobility scooters and powered wheelchairs with lifts

There has been considerable growth in the use of mobility scooters and undoubtedly this is a very great benefit for many people. However, in the vast majority of cases, the use of mobility scooters would not have been considered at the planning stage when new lifts were originally specified. For this reason, no information about use of mobility scooters with lifts would have been provided by the client, consultant or building owner to the lift installer. The lifts would have been designed in accordance with standards current at the time of manufacture which would not have anticipated the use of mobility scooters. The use of such devices presents a number of issues of which lift owners and those responsible for buildings should be aware.

Accessibility issues

The lift car sizes in BS EN 81-70 (new lifts for disabled persons) are based on the sizes of wheelchairs in EN 12183 and EN 12184. Mobility scooters are typically larger - particularly in length. Annex C of BS 8300 (design of buildings for disabled persons) gives typical sizes for electric scooters; the maximum size in that sample being 1600 mm long x 700 mm wide. This suggests that deeper lift cars might be needed than the commonly used Type 2 size in BS EN 81-70 of 1100 mm wide x 1400 mm deep. The largest lift car size in BS EN 81-70 is 2000 mm wide x 1400 mm deep (1275 kg rated load) which might be suitable but would require a mobility scooter of greater than 1400 mm long to be turned. This might not be ideal and so it is likely that a much deeper lift car could be required. The configuration of the entrances of the lift car should also be considered – manoeuvring with an open adjacent lift door configuration might prove very difficult in a mobility scooter.

Lifting platforms are generally not specified to have platform sizes suitable for mobility scooters and so their use would not have been considered in the design of lifting platforms complying with BS EN 81-41: 2010.

Lift landing doors

There have been cases where persons riding mobility scooters have collided with lift landing doors causing the door panels to separate from their surrounds and, in the worst cases, allowing the rider and mobility scooter to fall into the lift well with potentially fatal results.

Lift landing doors are generally designed to resist forces imposed in the middle of a door panel by an ambulant person. A mobility scooter and rider are much heavier and could strike the door at a very much greater speed with the impact near the bottom of the door.

Consequently, the force and energy levels of such a scooter impact are potentially very much greater than those for which landing doors were designed. Moreover, they are sufficiently high that it is not realistic to design passenger lift landing doors to resist such impacts. This issue has been considered by the European Standards organization, CEN, whose technical committee for lifts, TC10, has concluded that lift landing doors are not designed to withstand the impact of such devices.

BS EN 81-71 for new lifts subject to vandalism, or in the case of existing lifts DD CEN/TS 81-83, has requirements for lift landing doors to resist greater impacts than for standard landing doors. However, these forces are also based on impact by persons and not by a powered vehicle with passenger and so do not address this issue. Some door designs are offered to resist impact from mobility scooters; these are typically based on a maximum weight and speed of scooter and rider and so may not cope with higher speed impacts.

Regardless of the type of landing door fitted, the lift owner is strongly recommended to assess the potential usage of their lift(s) by persons riding mobility scooters and the likelihood of impact by these with the lift landing doors. Where this assessment concludes that action is required, this should be primarily by limiting the use of mobility scooters in the lift lobbies and limiting the speed at which these can approach the lift landing doors.

Even where lift landing doors have been designed to withstand impacts from mobility scooters, these are unlikely to cover higher speed impacts and so we recommend that negotiation with the supplier establishes the maximum loads and speeds which the landing doors can resist. We strongly recommend that action is taken to limit the possible impact speed with the lift landing doors.

Lift car walls and car door panels

Similarly to lift landing doors, there is a risk of impact with the walls and door panels of lift cars. For conventional lift cars, the situation is similar to that for lift landing doors; lift car walls and door panels designed according to the strength requirements in new lift standards would not necessarily be designed to resist impact from these devices.

New scenic lifts are generally specified by consultants who, hopefully recognizing their potential responsibility for design, would have assessed the application prior to specification. Glass panels should be provided with handrails in front to comply with the harmonized standards but these handrails are likely to be too high to act as a barrier and are not designed to resist an impact from a mobility scooter.

Homelifts

New homelifts should be installed in accordance with the current BS 5900: 2012 for homelifts. This includes requirements for the infill panel at the upper level to support at least the rated load of the homelift, evenly distributed. Earlier standards were based on a maximum load of 150 kg since they were written before the proliferation of powered devices. Homelift owners are warned to check the combined weight and not to exceed the maximum load of the trapdoor of the unit they have installed.

Conclusion

Lift owners or those responsible for lifts are strongly recommended to assess the potential usage of their lift(s) by persons riding mobility scooters and the likelihood of impact by these especially with the lift landing doors. Where this assessment concludes that action is required, this should be primarily by limiting the use of mobility scooters in the lift lobbies and with lifts and by limiting the speed at which these can approach the lift landing doors. Further measures can be taken to provide protection and to specify lift parts to better resist impact. Even in these cases, the primary approach should be to limit the use of these devices and their speeds when used with lifts.