

Extracts from the Code of Practice on the Safety of Passengers in Wheelchairs on Buses

Introduction

The purpose of this Code of Practice is to offer advice to bus manufacturers and operators on the safe carriage of passengers in wheelchairs. (A bus is a vehicle for more than 8 seated passengers, including those in wheelchairs, whether or not it is operated for hire or reward).

Every wheelchair should be secured in the vehicle. Regulation 100 of the Road Vehicles (Construction and Use) Regulations 1986 requires that any equipment or passengers in a vehicle are carried in such a manner that no danger is likely to be caused to those passengers or anyone else. If a wheelchair is not secured it might be held that an offence has been committed.

A bus operated for hire or reward as a Public Service Vehicle (PSV) is required to be certified by the Department of Transport as being safe for use. Certifying Officers will use this Code as guidance when examining a PSV designed for the carriage of passengers in wheelchairs.

Size of Wheelchairs

The Size A (large) wheelchair, specified in British Standard 5568:1978 for Folding Wheelchairs, has overall dimensions of 1065mm long by 660mm wide. Wheelchairs in common use vary considerably in size, from 680mm to 1420mm in length (including footrests) and from 470mm to 730mm in width.

Only 10% of wheelchairs in use are larger than the Size A wheelchair. Where a vehicle is to be used for general purposes it will normally be sensible to design the accommodation around the dimensions of the size a chair.

Space and Position for Wheelchair Occupant

Recommended Space

A space of 1200mm long by 700mm wide with minimum headroom of 1400mm has been found to be the minimum space generally necessary for a person in a Size A wheelchair to manoeuvre from a gangway into position without catching feet or chair wheels, and provides a reasonable amount of space for the passenger during the journey.

If only small wheelchairs are carried, or if a regular system of boarding and alighting is used whereby the first in is the last out, it may be possible to board passengers in their chairs into spaces 900mm by 500mm wide. Practical trials may be needed to determine the best arrangement.

It is recommended that the vehicle's maximum wheelchair carrying capacity (see 4 below) and the number of wheelchair and occupant restraint systems are determined on the basis of the 900mm by 500mm space, with 1400mm headroom over that space.

Wheelchair Direction

Passengers should not be carried in wheelchairs facing sideways. Most wheelchairs have little lateral strength and it is not possible to restrain the occupant satisfactorily.

Marking of Carrying Capacity

The vehicle should be marked clearly with letters not less than 25mm in height which may read from inside and outside the vehicle with the maximum seating, standing and wheelchair capacity of the vehicle. Alternative arrangements may be shown, e.g. Maximum number of passengers: 15 seated or 6 seated with 4 in wheelchairs.

Size of doorways

It is recommended that doorways for use by wheelchair passengers should have a width of 50mm up to a height of 800mm and a head-room in the centre of the doorway of 1500mm.

Size of gangways

Where several wheelchairs must be capable of being boarded and set down in random order, for example, where a local service is to be provided by a large bus, it is recommended that the shape and size of the recommended doorway aperture should be capable of passing down the gangway.

If a regular system of boarding and alighting is used whereby the first in is the last out, it may be possible to reduce the size of the gangway provided that it remains possible for able-bodied passengers to obtain access from every passenger seat to at least 2 exit doors, one of which is on the nearside and the other is on the off side or rear face of the vehicle.

Restraint Systems for Wheelchairs

Instructions for Use

Instructions in letters not less than 5mm in height explaining how to secure and release the restraint systems should be fixed in the vehicle in positions readily visible to the wheelchair passengers. The instruction notices should be durable and easy to clean.

Strength and Testing

Even under light braking and low speed cornering an unrestrained wheelchair could be dislodged and create a hazard to passengers, and unrestrained wheelchair occupants have been known to fall out of chairs. Under these ordinary conditions the forces exerted on a restraint system will probably not exceed the equivalent of the weight of the wheelchair and its occupant in forwards, sideways and rearwards directions.

In emergency situations or collisions, however, forces at least equivalent to 10 times the weight of the chair and occupant (10g) may be exerted on the restraints in the forward direction and 5g in the sideways and rearwards directions.

It is recommended that restraints be provided for both wheelchair and occupant

that are capable of withstanding the emergency situation forces. **THESE SHOULD BE USED AT ALL TIMES.**

Floor Fittings

A restraint system is only as strong as the part of the vehicle to which it is attached. Hence the system should be attached to parts of the vehicle capable of withstanding the forces recommended in STRENGTH AND TESTING above. The system should be installed carefully and if necessary reference should be made to the vehicle manufacturer.

Permanent floor attachments fittings should be recessed or smoothly contoured to avoid tripping passengers.

Electric Wheelchairs

The wheelchair power supply should be switched off. The batteries should be firmly attached to the wheelchair and, if the wheelchair is stowed separately, it should be secured so that the batteries will not spill. All the filler caps should be in place.

Space for Stowage of Equipment

Space should be provided for the safe stowage of restraint systems when not in use where they will not present a hazard to passengers and will not obstruct gangways or exits. Where practical it will often be helpful if space can also be provided for the stowage of folded wheelchairs or shopping. (This is not to be regarded as a requirement for the purpose of complying with this Code of Practice).

Power Operated Lifts

Instructions for Use

Instructions explaining how to use the lift should be attached to the vehicle close to the lift. The instruction notice should be durable and easy to clean.

The Controls

The controls should be clearly marked to indicate the action needed to raise or lower the lift. The controls should be such that the lift can only move while the control is being operated by a positive and continuous action.

The controls should be positioned so that they are accessible from both inside and outside the vehicle and so that the operator can stand on or near the platform throughout its range of travel. (E.g., a remote control box on a flexible cord, or 2 sets of controls may be needed).

If a control is permanently fitted outside the vehicle it should be made inactive or inoperable when the adjacent door is closed to avoid accidental damage or vandalism.

Any control that is permanently fitted, or can be used outside the vehicle should be protected against wet weather.

General Safety Features

The lifting mechanism should be designed so as to prevent the lift platform falling to the ground in the event of the failure of any part (e.g. a lifting rope or chain).

The lift platform should incorporate stops to prevent a wheelchair from rolling off. These should be capable of being fixed so as not to present a hazard to ambulant users on the platform.

A handrail should be provided on the lift platform.

As far as is reasonably practicable any parts of the lift mechanism where fingers, toes or limbs might be trapped should be covered by guarding and a device should be fitted between the lift platform and the body of the vehicle to prevent a foot being trapped.

A power-operated lift should comply with British Standard 6109 Part 2 (see below) and should be installed in accordance with the manufacturer's instructions.

The lift platform and mechanism should have no sharp edges or corners likely to endanger passengers or operators, either in its stowed position, during deployment for use or during operation. The lift should be firmly held in the stowed position and should not rattle.

When stowed a lift should not prevent any door being opened quickly from the inside and should be capable of being released quickly in one movement to provide egress in an emergency or a power failure.

If the power fails, an alternative means of operation of the lift (e.g. manual) should be available, or the vehicle should be equipped with ramps.

Lifting Capacity

The rated load capacity of the lift should be sufficient to cater for the heaviest wheelchair and occupant that is likely to be carried, together with a helper if required.

A survey of the combined weight of wheelchairs and their occupants showed that this weight can exceed 150kg. If adults in powered chairs are to be lifted together with a helper, a rated lift capacity of at least 250kg will be needed.

Passenger ramps

For convenience in use the gradient of ramps should not exceed 1 in 12 but this is not always practicable and is not to be regarded as a requirement for the purpose of complying with this Code of Practice.

Non-slip material should be used on the ramp and a raised edge should be provided on each side.

Detachable ramps should be provided with a means of positive location to the vehicle for safety in use.

All ramps should be provided with a secure means of stowage when not in use. The statutory requirements of Regulation 100 of the Road Vehicle (Construction and Use) Regulations 1986 are particularly relevant here. As with a stowed lift, stowed ramps should not prevent quick opening of doors.

Seat for Attendant

It is recommended that a seat is provided for an attendant on a vehicle intended to carry 5 or more passengers in wheelchairs.

Fire Extinguishers

It is recommended that at least 2 fire extinguishers are carried on the vehicle, of a type which complies with Schedule 7 Part 1 of the Road Vehicles (Construction and Use) Regulations 1986.