ACCESSIBILITY BY DESIGN IN GREATER MANCHESTER

2005

Foreword

This purpose of this design guide is to assist with the interpretation of part M of the Building Regulations 2004. It is important to note that although this guide has been endorsed by the majority of authorities in Greater Manchester as a guide to compliance with the current Building Regulations there are other design guides available, in particular 'Design for Access 2' published by Manchester City Council. Design for Access 2 is Manchester City Council's manual of inclusive design standards. The manual takes a practical approach to inclusive design and contains references to detailed technical guidance. Manchester aims to be the most accessible city in Europe and resources and expectations for removing barriers to disabled people are changing all the time. The manual can be viewed and printed from the City Council web site by searching for design for access at www.manchester.gov.uk

This guide is acceptable guidance for work undertaken in Bolton, Bury, Oldham, Rochdale, Salford, Stockport, Tameside, Trafford and Wigan.

Buckinghamshire and Milton Keynes Building Control Managers originally prepared the content, which has now been revised and updated for Greater Manchester District Surveyors Association by Peter Shaw at Oldham Building Control. This guide will assist designers in understanding and applying Part M (Access to and use of buildings) to both new and existing buildings. In particular additional information has been included with respect to Access Statements and toilet design, with a designers checklist included at the end of the guide courtesy of Tameside Building Control. The guide is not intended to be exhaustive and there may be other design solutions that may be acceptable in complying with the Building Regulations.

Whilst every care has been taken to compile the information within this guide the publishers and promoters cannot accept any responsibility for incorrect information. Building Regulations are subject to change and if in doubt you should contact your Local Authority Building Control office to check if the information is still current.

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Accessibility by Design ... A Standard Guide

ACCESS STATEMENTS

People are very different in their needs, and in the way they use the built environment. Recent changes to Building Regulations Part M go a long way towards promoting the idea of an "inclusive environment" recognising and broadly accommodating these differences in personal needs in a way that is universal. The theory being that an inclusive design provides a single solution for everyone.

A change in guidance and legislation for both Planning and Building Regulations has introduced the concept of access statements. This provides the opportunity for developers, designers and owners/managers to demonstrate their firm commitment to providing inclusive environments in the work that they intend to undertake, and importantly in the management of the buildings and/or spaces in use.

An access statement provides essential supplementary evidence in support of applications for the necessary statutory consents.

Starting at a strategic level the statement will record and explain decisions on accessibility of the project.

To be useful the access statement must be more than just a statement confirming that Part M of the Building Regulations and/or British Standards will be complied with. It should explain how the needs of disabled people and everyone else are incorporated into the general design and arrangements of the scheme, and how the principle of "inclusive design" have been incorporated into the scheme.

The access statement should commence at the project brief stage as an expression of intent, and expand, as the project develops to encompass planning, design, management and maintenance requirements.

The access statement will be used to demonstrate to the various statutory control mechanisms that the client and designer has fully considered access requirements and how they intend to meet them and that they recognise their legal duties.

Most importantly, where the design promotes circumstances whereby facets of the technical guidance cannot be complied with - for whatever reason, an access statement must outline the reasons and/or justification for such deviations. This evidence can then be considered by the building control authority, in their deliberations to determine the reasonableness of the approach proposed. Depending upon the nature of the premises and the extent of deviation the authority may wish to seek the views of the local access group.

Whilst the Disability Rights Commission (DRC) has published a document offering supplementary guidance on the contents and structure of an access statement this is still quite subjective.

In an attempt to offer some further direction an Access Statement Template has been prepared and incorporated purely for guidance.

Access/Egress Statement

Site address:		**Date:**

Contact details

	Applicants name		**Agents name**
Name:		Name:	
Address:		Address:	
Post code:		Post code:	
Telephone:		Telephone:	
		Fax No:	
		E-mail:	

Description of development

To include description of proposed works. Size of proposed works, building use, number of occupiers, perceived modes of transport etc.

Design standard followed:

Approved Document M (2004):		CAE Designing for Accessibility (2004):	
BS8300 (2001):		CAE Good Loo Design Guide (2004):	
Building Bulletin 91(Schools):		Other (please elaborate below):	
Sport England (Sports Facilities)			

Philosophy and approach

Overview of the developer's philosophy regarding access for disabled people and inclusive design.

This section must include specific examples of how individual design proposals within the project reflect this philosophy.

Reference to current/pending legislation may also be relevant.

Key access issues of the design

This should include direct guidance references to key design attributes in relation to:

- *Approach*
- *Parking*
- *Entrances*
- *Horizontal circulation*
- *Vertical circulation*
- *Access to services*
- *Emergency Egress etc.*

Sources of advice and consultation

Include references to relevant British Standards
Consultation with planners, conservation officers, access officers etc.
Evidence of consultation with existing/planned building users (where appropriate)
The extent of input from local access groups or local organisations reflecting the views of disabled people.

Nature and impact of environmental and/or other constraints

Where environmental factors act to constrain compliance with the relevant design guidance an explanation of the individual constraints should be included. These may include constraints imposed by an existing structure during an extension, or geographical constraints on new or existing developments.

The responsibility will be on the developer to explain why the relevant design guidance can't be achieved in any particular situation and to provide material evidence to this effect.

One alternate solution that has been considered should also be described for each instance in which the design is felt to deviate from the relevant design guidance.

Proposed solutions for overcoming identified constraints

Where deviation from the relevant design guidance is proposed as a solution an explanation of how the relevant barrier can be 'reasonably' overcome should be explained.

What steps have been taken to ensure this information is made available to building occupiers.

Explain the steps taken by the designers to ensure the above access philosophy and information particular to the building is fully integrated into the long-term management of the building.

Additional material information

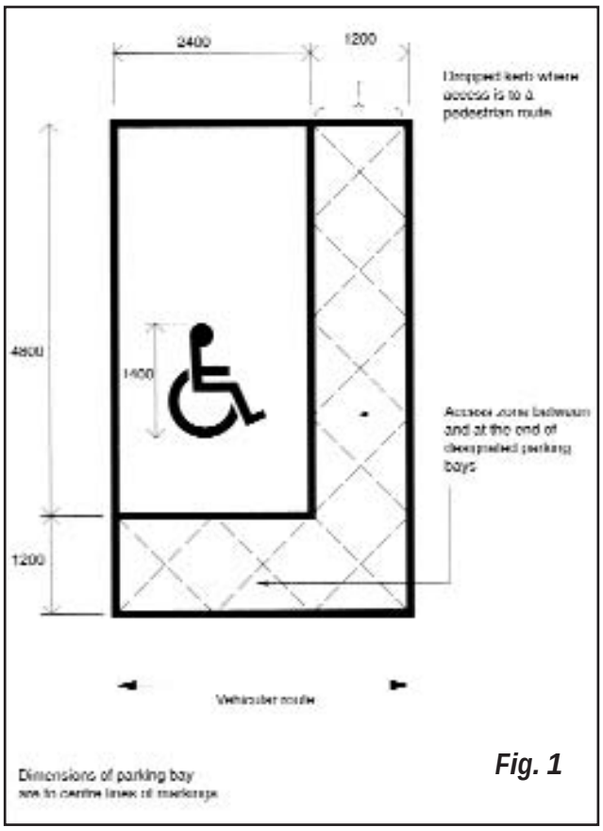
Any additional information in support of the proposed development.

Car Parking Spaces

- For disabled people, car access is vital. In car parks, provision should be made for disabled drivers and cars carrying disabled passengers. Parking should be provided as near to the principal entrance as possible and under cover is desirable. If payment is required, provide level and unobstructed access to pay and display units.

- The surface of a designated parking bay should be firm and level, slip resistant and have a 1200mm transfer zone alongside and at the rear of the vehicle.

- If people need to obtain tickets for pay and display parking, the ticket dispensing machines need to be accessible to wheelchair users and people of short stature. They should be adjacent to the designated parking and have controls between 750mm and 1200mm from ground level.



Dimensions of parking bay
are to centre lines of markings

Fig. 1

- Guidance on designated parking, ticket dispensing machines, vehicular control barriers and multi-storey car parks can be found in BS 8300.

- The recommended numbers of reserved spaces vary in accordance with the type and capacity of car parks as follows:

Car parks associated with employment premises and provided for employees and visitors.

- 5% of the total parking capacity should be designated for disabled motorists.

Car parks associated with shopping areas, leisure or recreational facilities

- One space for each disabled employee plus 6% of the total capacity for visiting disabled motorists.

- Car parking spaces for the disabled should be signposted using the international symbol of the disabled (fig. 46, page 56), which can also be painted on the ground with the legend "Disabled Drivers Only."

External Travel

- Routes of travel across grass or paved areas should be highlighted. This can be achieved by contrasting colour, texture or by directional paving.
- Covers and gratings should be flush with pavings, the maximum gap being 18mm.
- Define footpath edges with either kerb, low rail or a surface change.

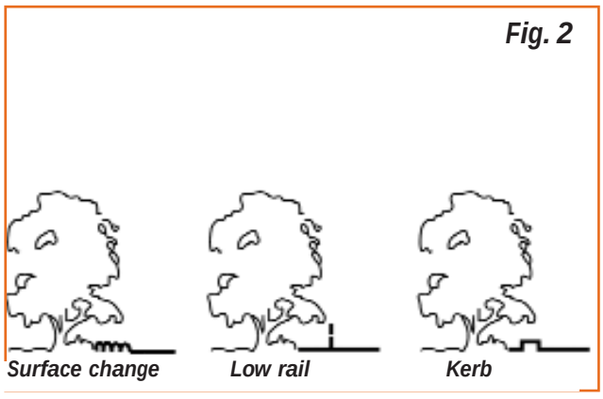


Fig. 2

- Pedestrian crossing points require special attention.
- Red tactiles should be used at controlled crossings and buff coloured tactiles at uncontrolled crossings.
- At changes in level and to slopes steeper than 1:15 a handrail and kerb should be provided. A lower rail and kerb should be provided as a guide for partially sighted people using canes.

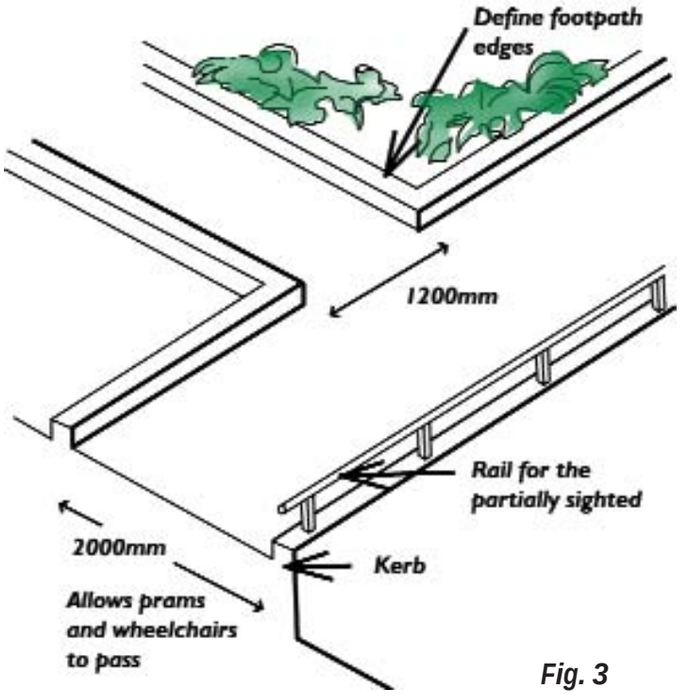
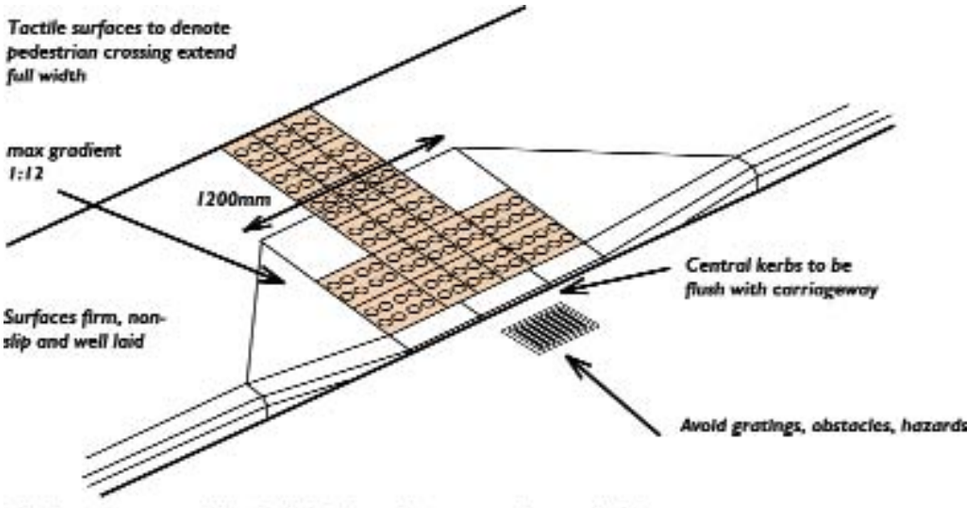


Fig. 3



This layout is a general detail only. Further advice on exact layouts should be sought from the local Highway Authority.

Fig. 4

External Hazards

LANDSCAPE FURNITURE

- The provision of landscape furniture requires careful thought. It needs to be made distinguishable from the background, i.e. by colour contrast and should be detectable at low level for people with impaired vision.

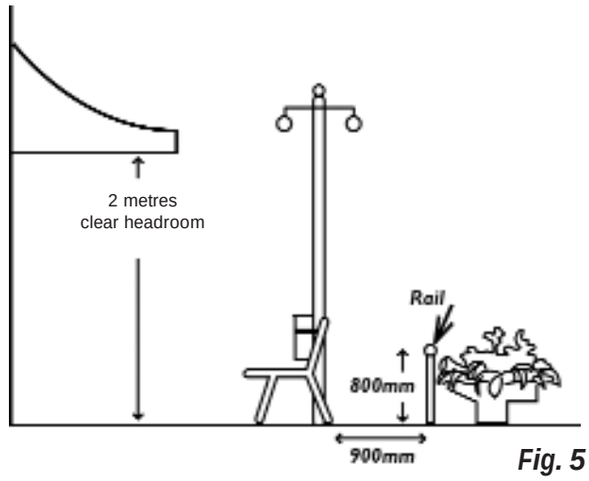


Fig. 5

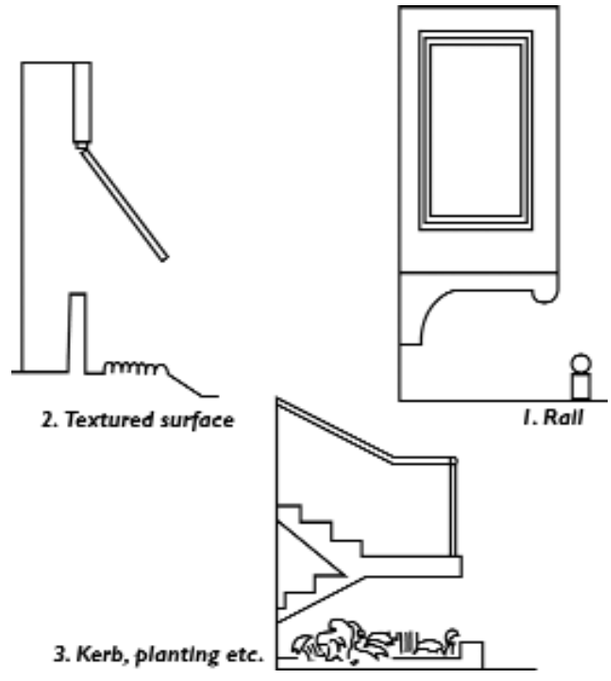


Fig. 6

- Avoid overhangs, especially at ground level.
- Guard against building projections by the use of (1) rails, (2) textured surfaces, (3) kerbs and planting, etc.

DOORS

- Doors which open outwards should not cause an obstruction on a path which runs along the face of a building, i.e. recess the doors or provide suitable guarding.

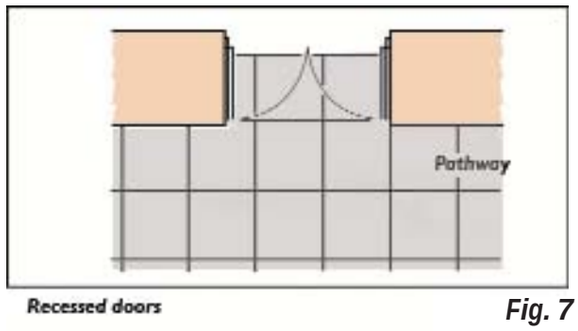


Fig. 7

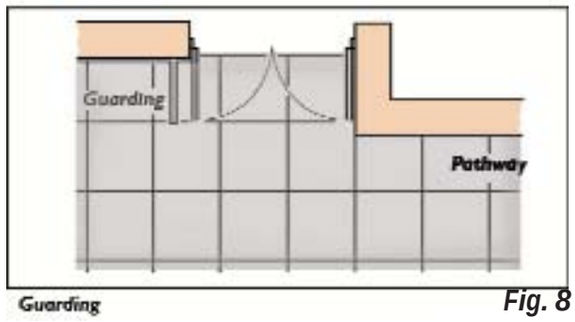


Fig. 8

ACCESS TO BUILDINGS

Approach to the Building

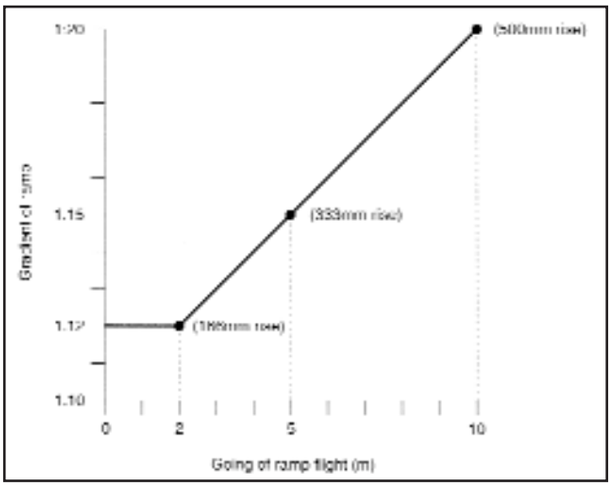
- There should be a convenient access into the building for disabled people, whether they are visitors to the building or work in it and whether they arrive on foot or in a wheelchair.
- If space outside the principal entrance is restrictive, an alternative accessible entrance in common use should be provided.
- Car parking spaces should be provided adjacent to the principal entrance or the accessible entrance in common use.
- Clearly signposted steps should be provided when the rise of the ramp exceeds 300mm. The surface of the ramp should be slip resistant and of a colour that contrasts visually with that of the landings.

Table 1 **Limits for ramp gradients**

Going of a flight	Maximum gradient	Maximum rise
10 m	1:20	500mm
5 m	1:15	333mm
2 m	1:12	166mm

Notes:
For goings between 2m and 10m, it is acceptable to interpolate between the maximum gradients, i.e. 1:14 for a 4m going or 1:19 for a 9m going (see Fig. 9).

Fig. 9 **Relationship of ramp gradient to the going of a flight**



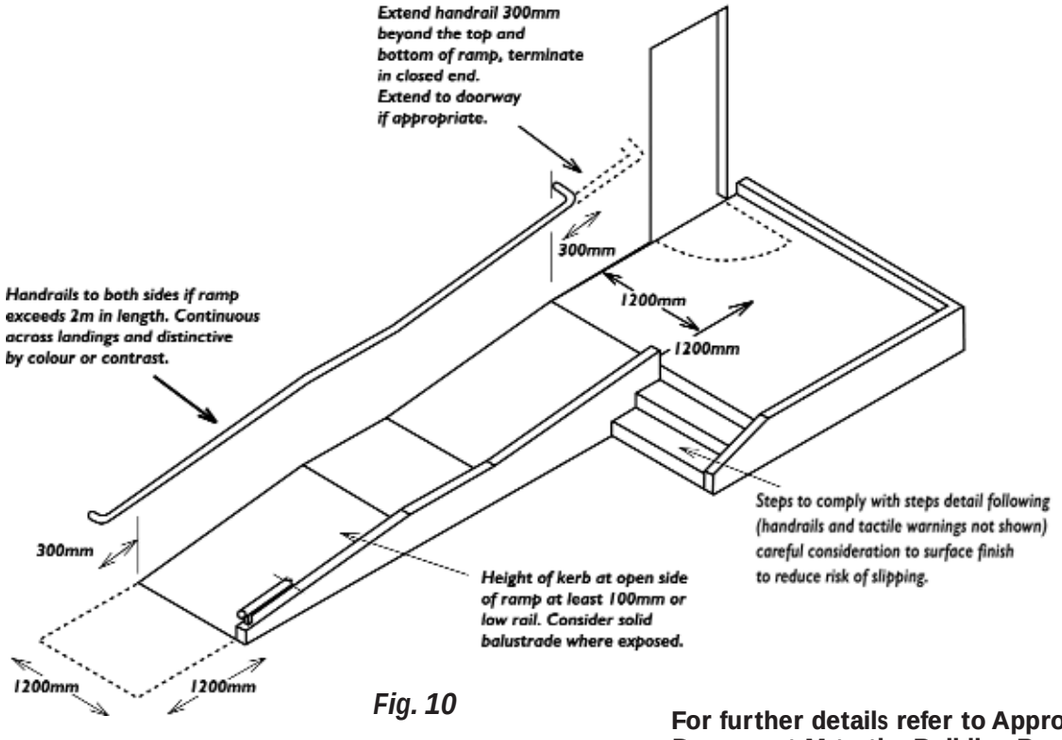


Fig. 10

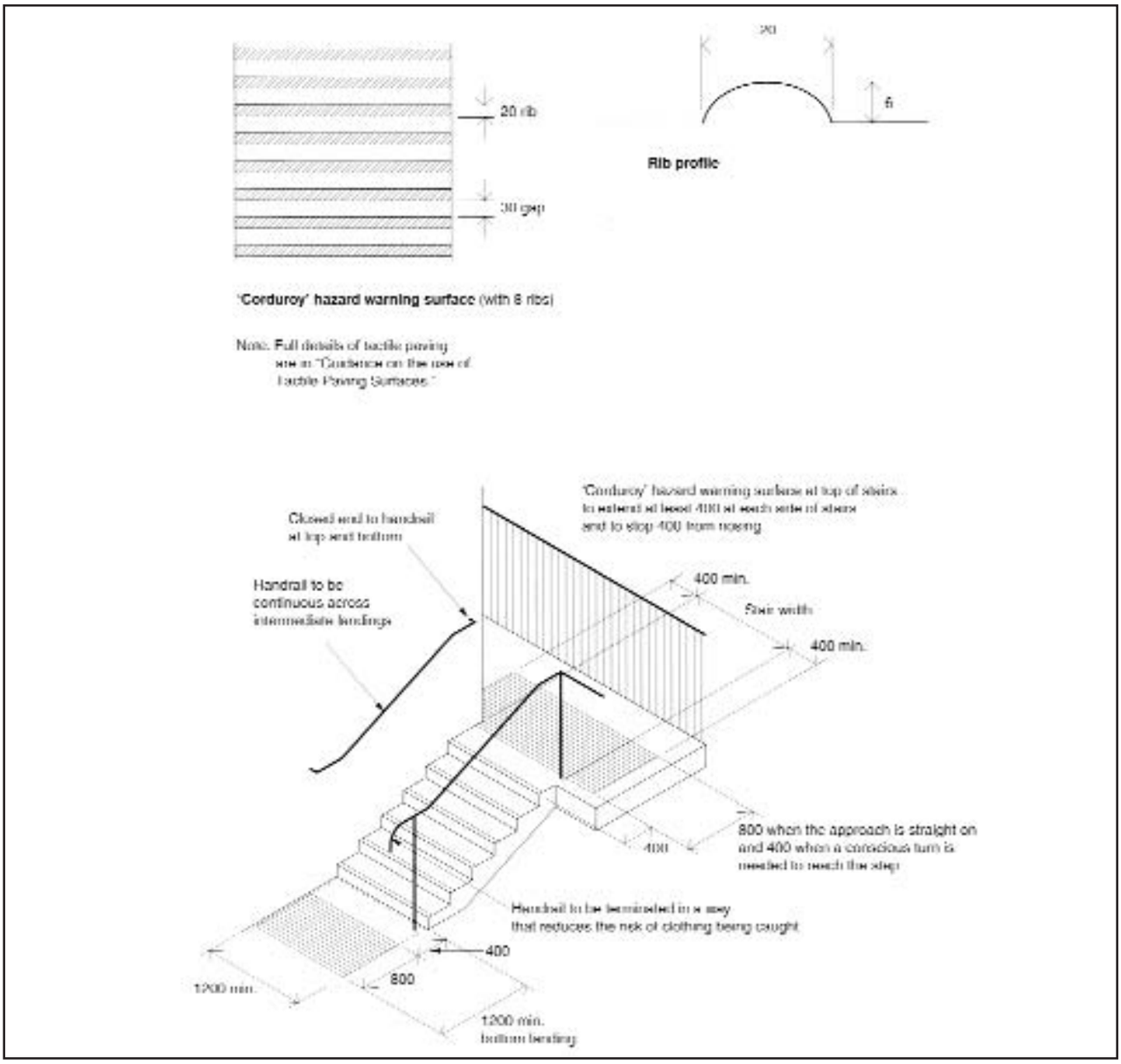
For further details refer to Approved Document M to the Building Regulations

Stepped Access

- A corduroy hazard warning surface should be provided at top and bottom landings of a series of flights to give advance warning of a change in level.
- Rise of each step should be between 150mm and 170mm.
- Going of each step should be between 280mm and 425mm.
- Rise and going of each step should be consistent throughout the flight.
- Width of the flight should not be not less than 1.2m.

For schools the preferred dimensions are 150mm rise and 280mm going

Fig. 11 **Stepped access – key dimensions and use of hazard warning surface**



ACCESS TO BUILDINGS

Stepped Access

Fig. 12 **External steps and stairs – key dimensions**

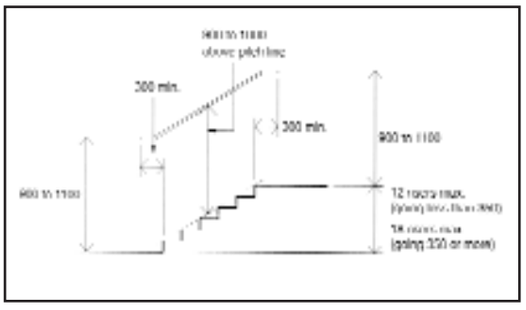
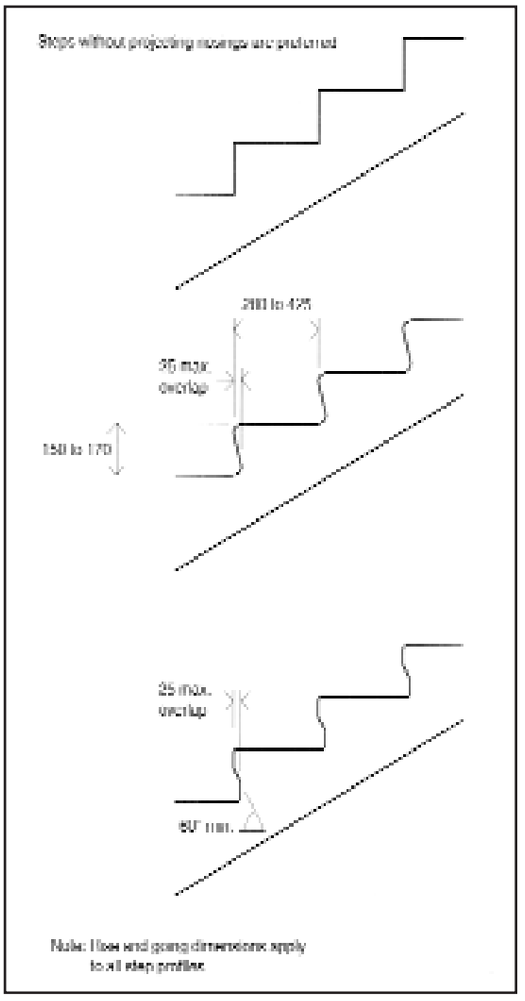


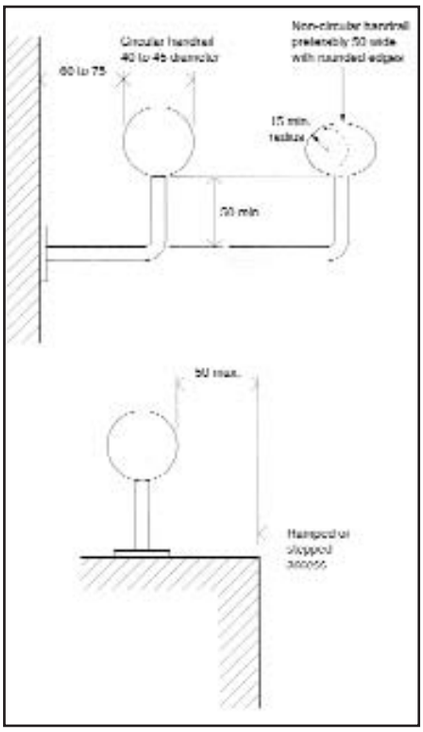
Fig. 13 **Examples of acceptable step profiles and key dimensions for external stairs**



HANDRAILS

- Should be between 900mm and 1000m above the surface of the ramp.
- Should be continuous along the flights and landings of steps and ramps.
- Should extend at least 300mm beyond the top and bottom of ramps and a flight or flights of steps whilst not projecting onto an access route.
- Should contrast visually from the background without being reflective.
- The surface should be slip resistant and not cold to the touch.
- The profile should be circular with a diameter of between 40mm and 45mm or oval, preferably with a diameter of 50mm.
- Should protrude no more than 100mm into the surface width of ramp or stairs where this would impinge on the stair width requirement of Approved Document B (Fire Safety).
- Should have a clearance of between 60mm and 75mm between the handrail and any adjacent wall surface.

Fig. 14 **Handrail design**



Accessible Entrances

ACCESSIBLE ENTRANCES

- Should be clearly signposted and should include the international symbol of access, from the edge of the site, and the principal entrance if this is not the accessible entrance. (Guidance on sign posting can be found in BS 8300).
- Any structural supports at the entrance should not be a hazard to the visually impaired.
- Should have a level landing at least 1500mm by 1500mm clear of any door swings immediately in front of the entrance and be of a material that does not impede wheelchair users.
- Door entry systems should be accessible to deaf and hard of hearing and people who cannot speak. (LED display) fitted between 750mm and 1000mm from floor level.
- The surface of any entrance matting should be level with the floor and should not impede wheelchair movement. Avoid coir matting, and changes in floor surfaces which are potential trip hazards.

DOORS TO ACCESSIBLE ENTRANCES

- Entrance doors can be manually operated, or power operated under manual or automatic control.
- Vision panels should comply with the minimum zone of visibility of between 500mm and 1500mm from floor level, if necessary interrupted between 800mm and 1150mm from floor level to accommodate a horizontal grab-rail.

Table 2 **Minimum effective clear widths of doors**

Direction and width of approach	New buildings (mm)	Existing buildings (mm)
Straight-on (without a turn or oblique approach)	800	750
At right angles to an access route at least 1500mm wide	800	750
At right angles to an access route at least 1200mm wide	825	775
External doors to buildings used by the general public	1000	775

Note:
The effective clear width is the width of the opening measured at right angles to the wall in which the door is situated from the outside of the door stop on the door closing side to any obstruction on the hinge side, whether this be projecting door opening furniture, a weather board, the door, or the door stop (see Fig. 15). For specific guidance on the effective clear widths of doors in sports accommodation, refer to 'Access for Disabled People', Design Guidance Note, Sport England
ISBN 1-86078-1497

MANUALLY OPERATED NON POWERED ENTRANCE DOORS

- A non-powered door fitted with a self-closing device capable of closing the door against wind forces and the resistance of draught seals is unlikely to be openable by a wheelchair user or someone with limited strength.
- The opening force at the leading edge should be no greater than 20N.

It should be noted that double buggies are wider than wheelchairs and this should be borne in mind when designing certain types of buildings.

Accessible Entrances

POWERED ENTRANCE DOORS

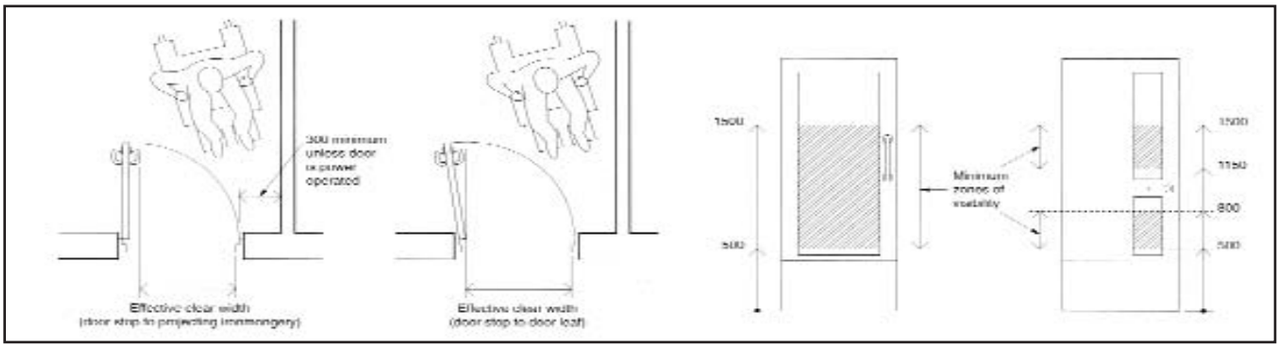
- Manual control for powered entrance doors should be clearly distinguishable from the background, and located between 750mm and 1000mm from the ground level (to include swipe cards etc).

- Where the doors swing towards people approaching them visual and audible warnings should be provided. They should incorporate a safety stop if someone is passing through and revert to manual control or stay open in a power failure.

GLASS ENTRANCE DOORS AND GLAZED SCREENS

- Should be clearly defined with manifestation on the glass at two levels 850mm to 1000mm and 1400mm to 1600mm. Manifestation is a sign or a logo at least 150mm high.

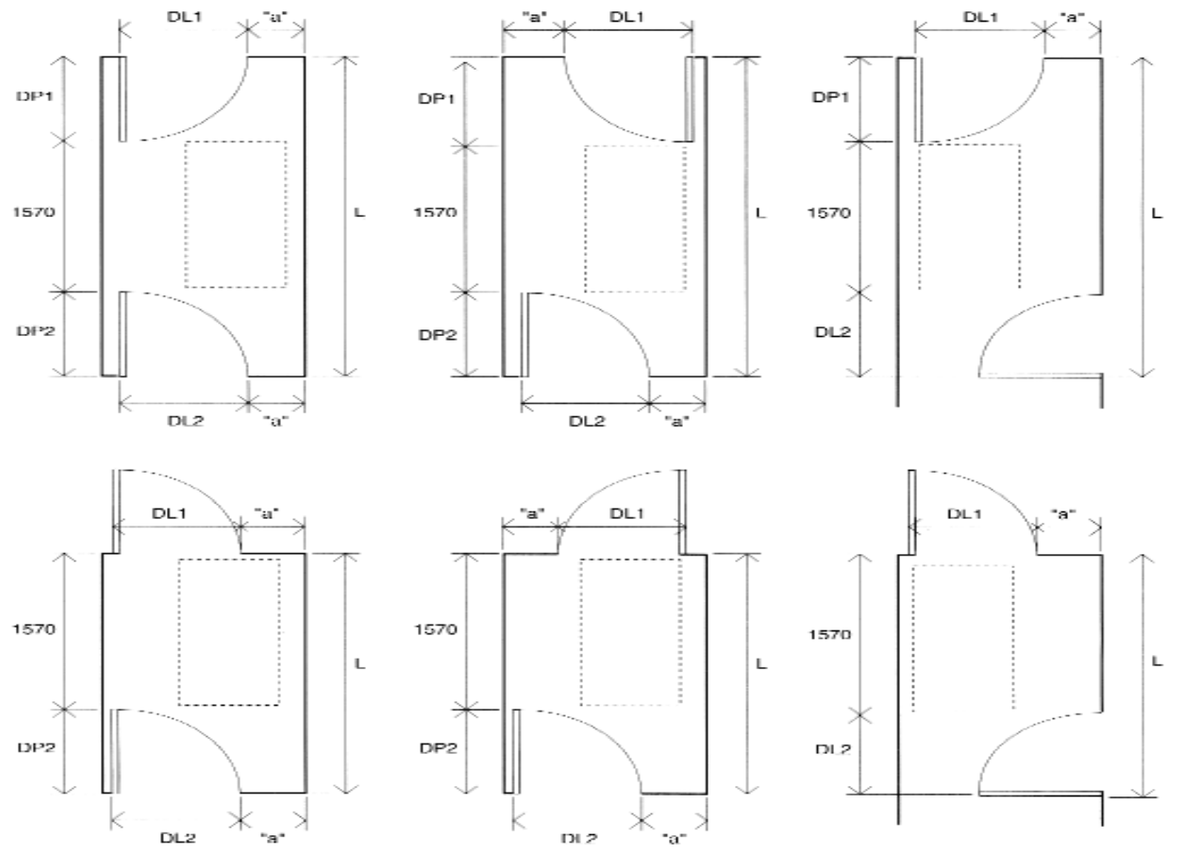
Fig. 15 **Effective clear width and visibility requirements of doors**



Entrance Lobbies

- Where entrance lobbies are incorporated in buildings, adequate space must be provided between doors. There should also be space for someone assisting the wheelchair user and for someone passing in the opposite direction.
- Thresholds should be flush, 15mm maximum, at both doorsets.
- Matwells should be flush (including the surrounds), close fitting and firm.
- The door opening widths should apply to the inner doors as well as the outer doors.
- Lighting to reduce the contrast between the outside and the building's interior should be considered.
- The floor surface should be level, slip resistant and not impede the movement of wheelchairs or crutch users. Avoid coir matting and ensure any changes in floor materials do not create potential trip hazards.

Fig. 16 **Key dimensions for lobbies with single leaf doors**



DL1 and DL2 = door leaf dimensions of the doors to the lobby
DP1 and DP2 = door projection into the lobby (normally door leaf size)
L = minimum length of lobby, or length up to door leaf for side entry lobby
"a" = at least 300mm wheelchair access space (can be increased to reduce L)
1570 = length of occupied wheelchair with a companion pushing (or a large scooter)

NB: For every 100mm increase above 300mm in the dimension "a" (which gives a greater overlap of the wheelchair footprint over the door swing), there can be a corresponding reduction of 100mm in the dimension L, up to a maximum of 600mm reduction.

Entrance Hall and Reception Area

- Any reception point should be easily identifiable from the entrance doors or lobby and have a direct approach and be free from obstructions.
- Should be designed to accommodate both seating and standing visitors. At least one section of the counter should be at least 1500mm wide, no higher than 760mm with a knee recess not less than 700mm from floor level.
- Reception points should be provided with a hearing enhancement system.

Guidance on aids to communication can be found in BS 8300

Internal Doors

Design considerations similar to those for entrance doors apply to internal door
Refer to table 2 and fig. 15.

- The force needed to open the door manually should not exceed 20N.
- Doors should be distinguishable from the adjacent facades, as should be ironmongery (i.e. pull handles) from the actual door itself.
- Lever handles are preferable to knob sets.

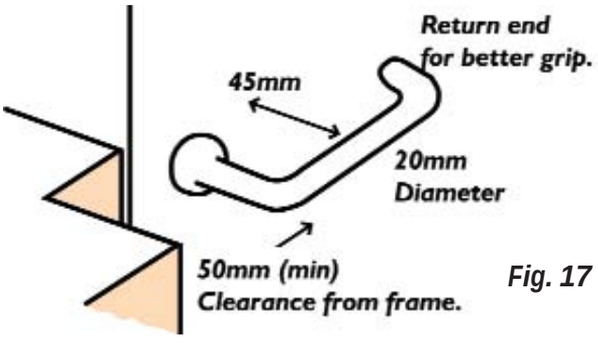


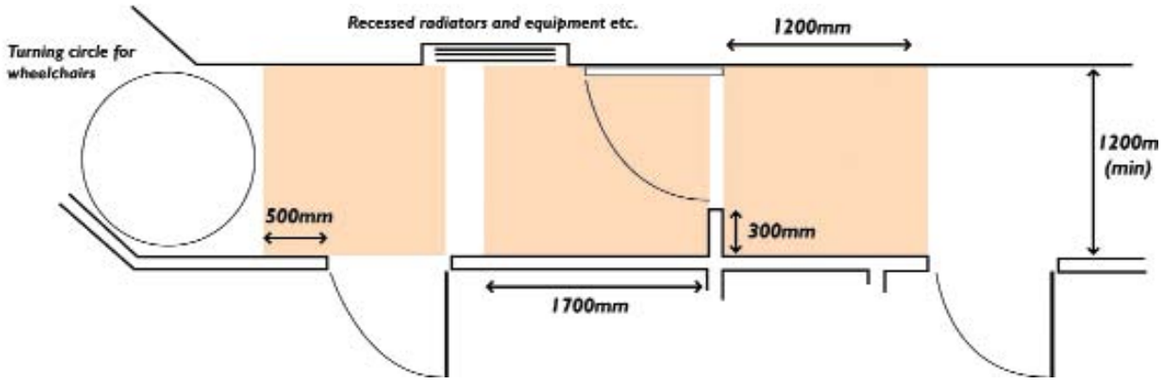
Fig. 17

- Doors should have a zone of visibility between 500mm and 1500mm from the floor, if necessary interrupted between 800mm and 1150mm from the floor, to accommodate an intermediate horizontal rail.
- Incorporate low-level protection from wheelchairs. Thresholds should be level with adjacent floor finishes.
- Fire doors particularly those in corridors should be held open with an electro-magnetic device, but self-close when:
  - Activated by a smoke alarm or fire alarm
  - Power supply fails
  - Activated by a hand operated switch.
- Fire doors to individual rooms should be fitted with swing-free devices that close when activated by smoke detectors, fire alarms and power failure.

For guidance on fire doors and self-closers see Approved document M and BS 8300

Corridors and Passageways

- In locations required to be accessible to wheelchair users, corridors and passageways need to be wide enough to allow for wheelchair manoeuvre and for other people to pass.
- Elements such as columns radiators and fire hoses should not protrude into the corridor, or where this is unavoidable a means of directing people around them, such as a visually contrasting guardrail should be provided.
- Unobstructed width should be at least 1200mm excluding any projections into the corridor.
- Where the unobstructed width of the corridor is less than 1800mm, passing places should be at least 1800mm long and 1800mm wide at reasonable intervals to allow wheelchairs to pass at corridor junctions and similar.
- A floor is classed as level if the gradient is no steeper than 1:60.
- Corridors of gradient between 1:20 and 1:60 should have rise no more than 500mm without a level rest area at least 1500mm long.
- If the corridor is 1:20 or steeper, refer to ramp details.
- Any door opening towards a corridor which is a major access route, should be recessed so that when fully open it does not project into the corridor.
- On a major access or escape route the wider leaf of a series of double doors with leaves of unequal widths is on the same side along the length of the corridor.
- Floor finishes should be slip resistant.
- Glass screens should have suitable manifestation.



Shaded areas show required unobstructed space requirements for approaching doors. All dimensions are clear widths.

Fig. 18

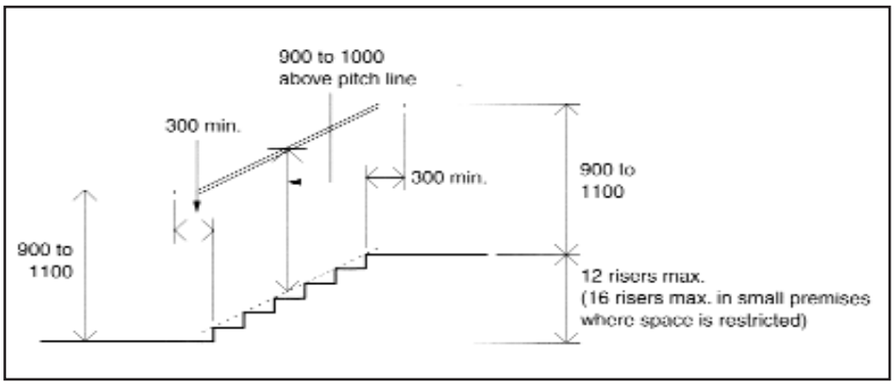
ACCESS WITHIN BUILDINGS

Internal Stairs

Guidance as for stepped access except:

- It is not reasonable to require a hazard warning surface at the head of internal stairs (since there is no recognised warning surface for use internally, which can be guaranteed not to constitute a trip hazard when used alongside flooring surfaces with different frictional resistance characteristics) .
- A flight between landings normally contains no more than 12 risers, but in very exceptional circumstances 16 risers in small premises may be provided where the plan area is restricted.
- The rise of each step should be between 150mm and 170mm.
- The going of each step should be at least 250mm.
- The provision for handrails is the same as for stepped access.

Fig. 19 **Internal stairs – key dimensions**



Means of Escape

- BS 5588 Part 8 allows for assisted means of escape in case of fire for people who cannot readily travel down through the building by the provision of suitable refuges, e.g. on staircases or in protected lobbies/corridors.

Refuge space 700mm x 1200mm (min); 900mm x 1400mm preferred including manoeuvring space

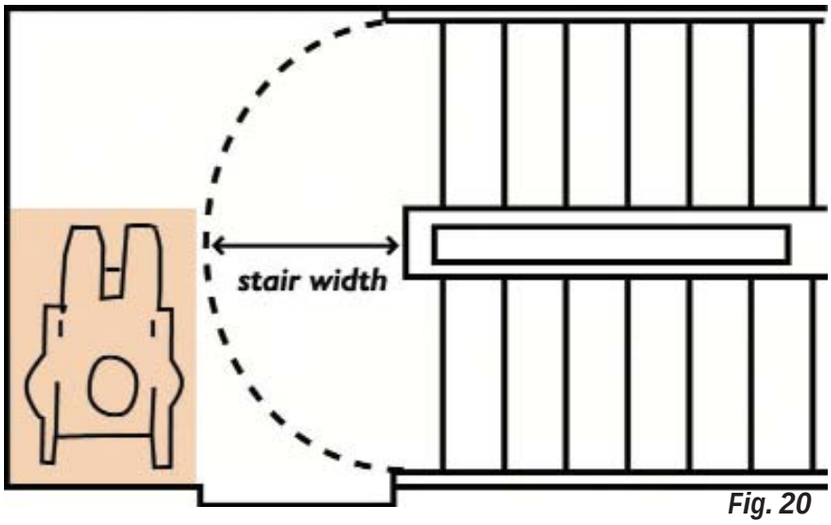


Fig. 20

Vertical Circulation within the Building

A passenger lift is the most suitable means of vertical access and should be provided wherever possible.

However given the space constraints in some buildings it may not always be possible to provide a full passenger lift.

- Signs indicating the location of a lifting device accessible by mobility-impaired people should be clearly visible from the building entrance. Additionally a sign indicating the floor reached should be provided on each landing that can easily be seen from the lifting device and is visually contrasting.
- Whatever lifting device is chosen, internal stairs should always be provided, designed to suit the ambulant disabled and the visually impaired.

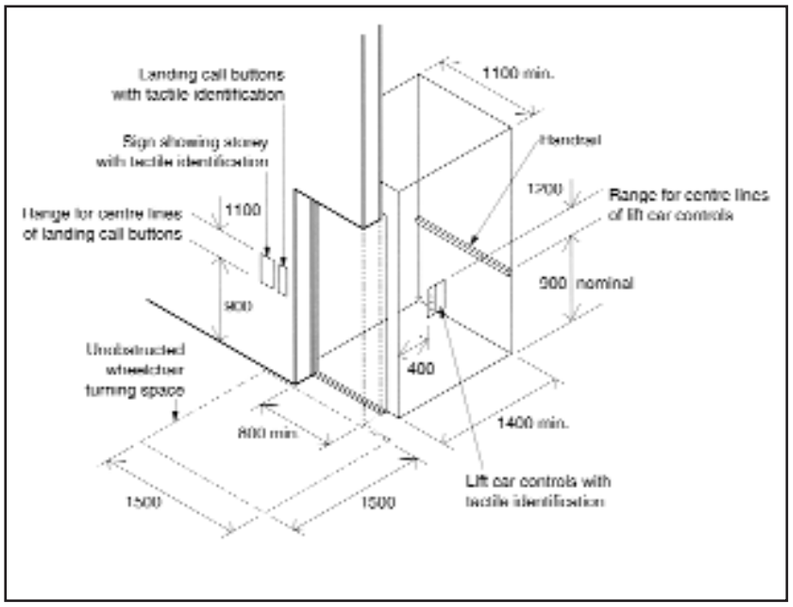
Provision of Lifting Devices

- New developments should have a full passenger lift serving all storeys.
- For new developments where due to site constraints a full passenger lift cannot be provided, a lifting platform may be acceptable.
- Existing buildings may in exceptional circumstances have a wheelchair platform stairlift.

Passenger Lifts

- Minimum dimensions of the car should be 1100mm wide and 1400mm deep.
- For a lift that does not have room for a wheelchair user to turnaround a mirror should be provided to allow the user to see the space behind the wheelchair.
- Power operated sliding doors should provide a minimum clear opening of 800mm and be fitted with timing and re-opening activators to allow time for people and assistance dogs to enter or exit.
- Controls should be located between 900mm and 1200mm from the car floor and at be least 400mm from any return wall.

Fig. 21 **Key dimensions associated with passenger lifts**



- Landing call buttons should be located between 900mm and 1100mm from the floor and at least 500mm from any return wall.
- Lift landing and car doors should contrast visually from adjoining walls.
- Audible and visual indication of lift arrival and location should be provided in the lift car and lift lobby. If the lift is to be used in an emergency it should conform with the relevant recommendations of BS 5588 part 8 (Code of Practice for Means of Escape for Disabled People).

Vertical Circulation within the Building

Lifting Platforms

- Vertical travel distance should be no more than 2m where there is no liftway enclosure and no floor penetration.
- Controls should be located between 800mm and 1100mm from the floor of the lifting platform and be at least 400mm from any return wall.
- Continuous pressure controls should be provided, with landing call buttons the same as for a passenger lift.

Minimum dimensions should be

- 800mm wide and 1250mm wide where the platform is not enclosed and provision is being made for an unaccompanied wheelchair user.
- 900mm wide and 1400mm deep if the platform is enclosed and provision is made for unaccompanied wheelchair users.
- 1100mm wide and 1400mm deep where two doors are located at 90 degrees relative to each other and where the platform is enclosed, or where provision is made for unaccompanied wheelchair users.
- Doors should have clear opening of 900mm for an 100mm x 1400mm platform and 800mm clear opening in other cases. Audio and visual announcements should be provided for platform arrival and location indication.

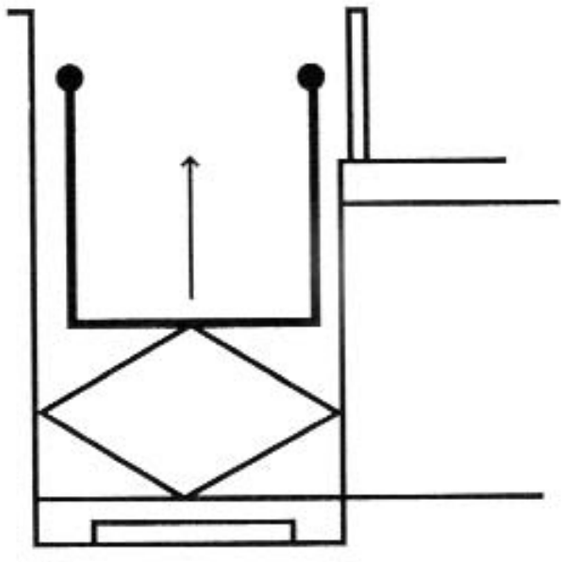


Fig. 22 *Platform lift*

Wheelchair Platform Lifts

- In a building with a single stairway required width for means of escape should be maintained when the platform is in the parked position (see Approved Document B).
- Continuous pressure controls should be provided. The minimum dimensions are 800mm wide and 1250mm deep.
- Access with an effective clear width of at least 800mm should be provided.

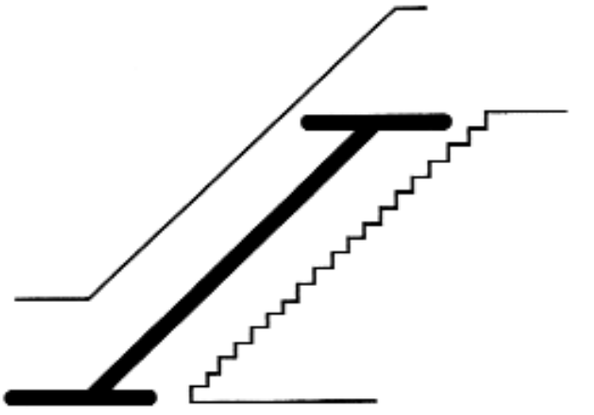


Fig. 23

Wheelchair stairlift

FACILITIES IN BUILDINGS OTHER THAN DWELLINGS

Audience and Spectator Facilities

Audience and spectator facilities fall into 3 categories

- **Entertainment facilities, eg. Cinemas and theatres**
- **Sports Stadiums**
- **Lecture & Conference Facilities**

General

- People with mobility or sensory impairments may need to view from a particular side or sit in the front to lip read or see sign interpreters.
- Care needs to be taken so that poor lighting or very bright natural light does not make it difficult to see the interpreter.
- Wheelchair users, people who have difficulty using chairs with fixed arms and those with assistance dogs should have the choice of sitting next to a seated companion or a companion wheelchair user.
- Consideration should be given to providing space by certain seats for assistance dogs to rest.
- Greater spacing between rows of seats at the rear of a block or at the end of rows may provide extra legroom for people of large stature.

Table 3 **Provision of wheelchair spaces in audience seating**

Seating capacity	Minimum provision of spaces for wheelchairs	
	Permanent	Removable
Up to 600	1% of total seating capacity (rounded up)	Remainder to make a total of 6
Over 600 but less than 10 000	1% of total seating capacity (rounded up)	Additional provision, if desired

Note:
For seating capacities of 10,000 or more, guidance is given in 'Accessible stadia: a good practice guide to the design of facilities to meet the needs of disabled spectators and other users'.

LECTURE AND CONFERENCE FACILITIES

- Where a podium or stage is provided wheelchair users should have access to it by means of a ramp or a lifting platform.
- A hearing enhancement system should be provided for the hearing impaired.

Guidance on hearing enhancement systems can be found in BS 8300.

Fig. 24 **An example of wheelchair spaces in a lecture theatre**

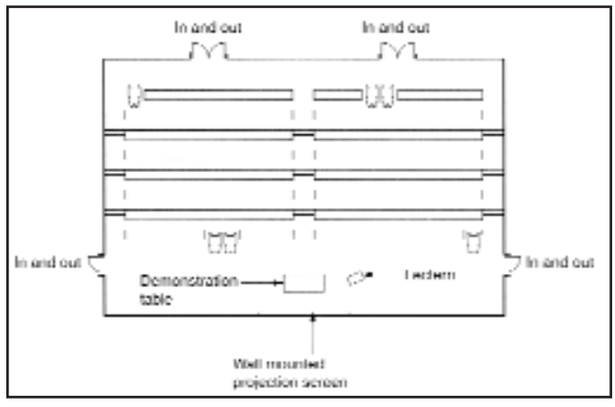


Fig. 25 **Possible location of wheelchair spaces in front of a rear aisle**

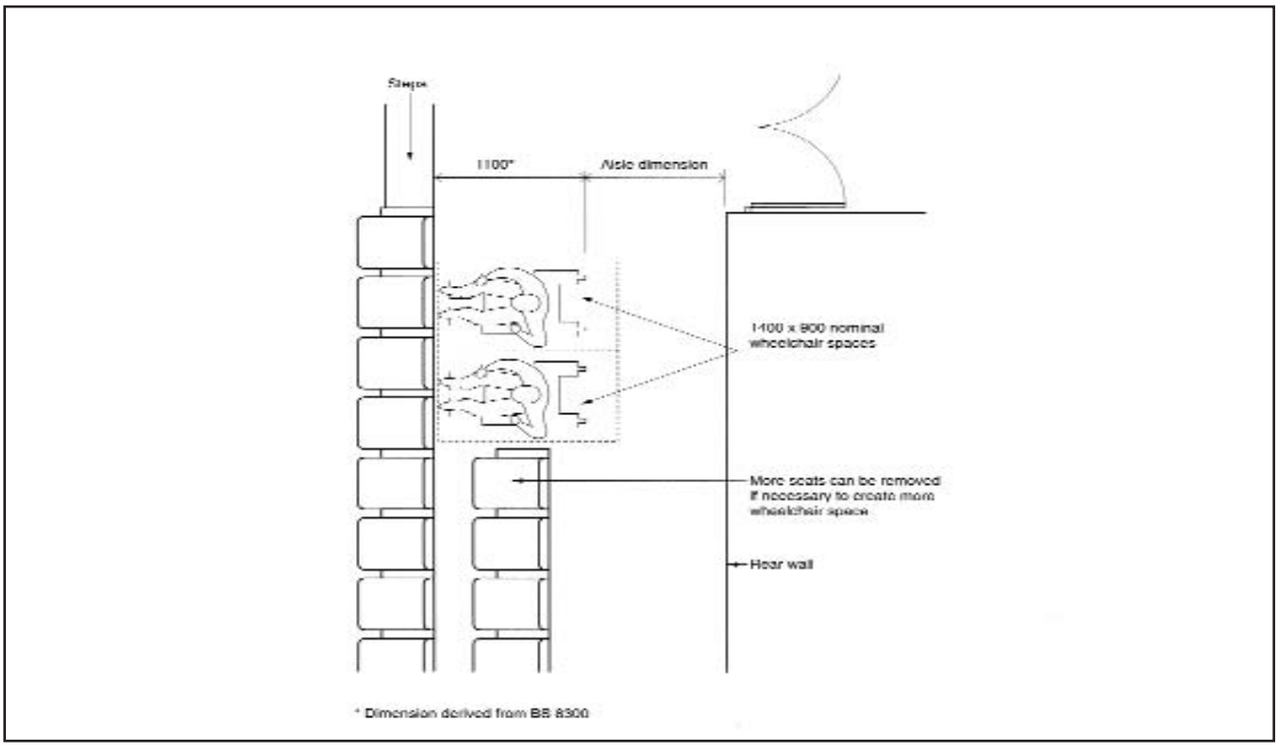
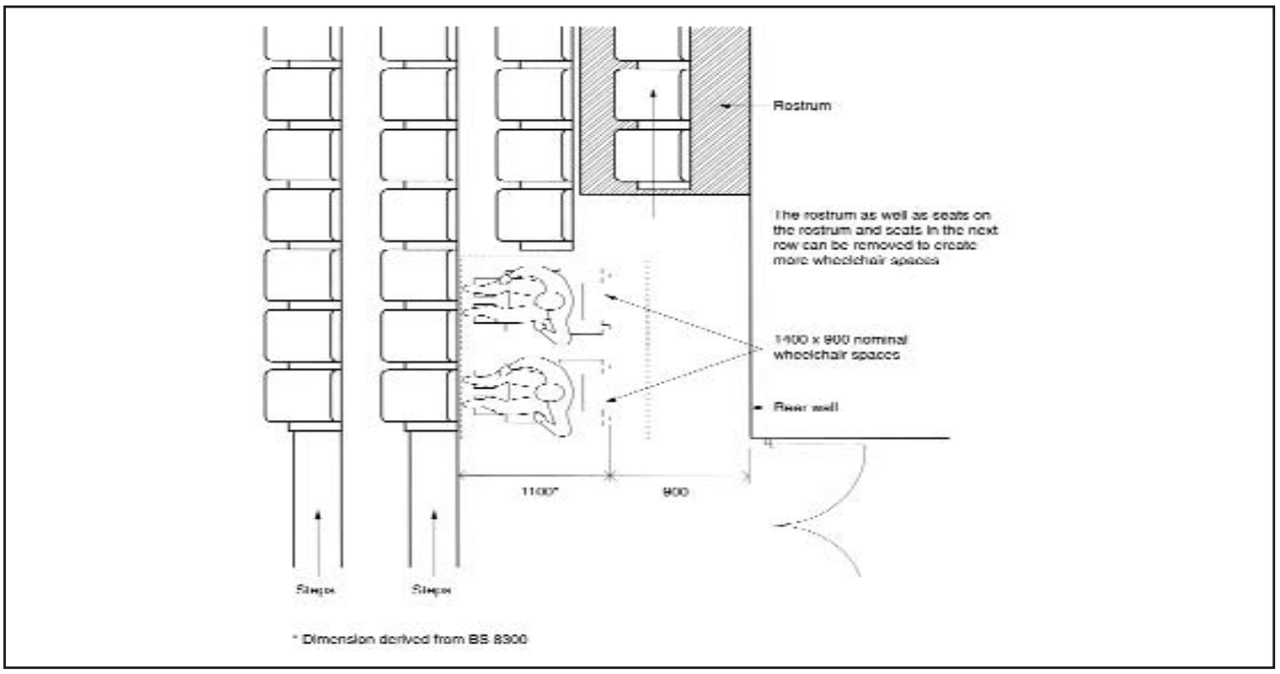


Fig. 26 **An example of wheelchair space provision in a cinema or theatre**



FACILITIES IN BUILDINGS OTHER THAN DWELLINGS

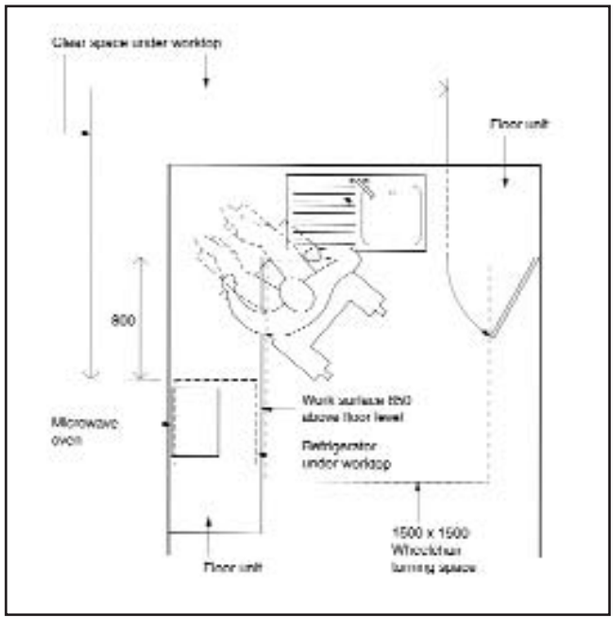
Refreshment Facilities

All bars/restaurants should be designed so all potential customers have full and independent access.

All public areas including toilets, public telephones and external terraces should be fully accessible, as should self-service and payment points.

- In many restaurants changes of level are used to differentiate between different functions or to create atmosphere.
- Changes of level are only allowed if they are fully accessible by a ramp or lifting platform.
- Part of the bar should be accessible to wheelchair users and be no higher than 850mm from the floor level.
- Worktops in shared refreshment facilities, for example tea making areas at work, should be accessible no higher than 850mm from the floor, with a clear space beneath at least 700mm above the floor.

Fig. 27 **An example of a shared refreshment facility**



FACILITIES IN BUILDINGS OTHER THAN DWELLINGS

Sleeping Accommodation

Sleeping accommodation where provided for a significant number of people such as hotels, motels and student accommodation, should be convenient for everyone.

- In student accommodation it is beneficial to provide a wheelchair accessible toilet for visitors.

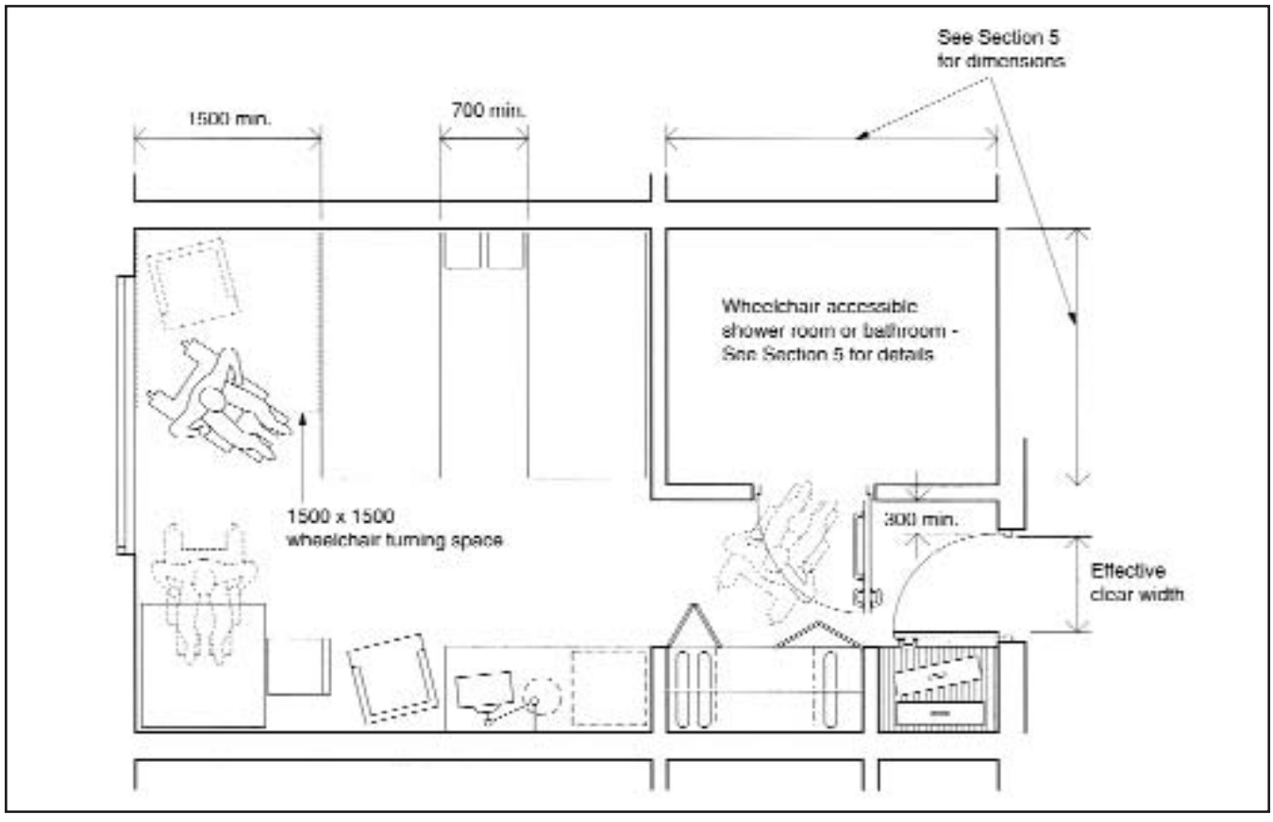
This guidance should be followed for all bedrooms;

- Effective clear width of the door from the access corridor should comply with table 2 (page 23).
- Swing doors on wardrobes etc should open through 180 degrees.
- Handles on hinged and sliding doors should be easy to grip and operate and contrast visually from the door.
- All bedrooms should have a visual fire alarm signal in addition to the requirements of Approved Document B.
- Room numbers should be indicated in embossed characters.

WHEELCHAIR ACCESSIBLE BEDROOMS

- At least 1 in 20 bedrooms should be wheelchair accessible.
- The wheelchair accessible bedrooms should be located to provide a choice of location and be on accessible routes to all the facilities.

Fig. 28 **One example of a wheelchair-accessible hotel bedroom with en suite sanitary facilities**



FACILITIES IN BUILDINGS OTHER THAN DWELLINGS

Sleeping Accommodation

- They should be of the same standard as all other bedrooms.
- The entrance door to the bedroom and to the en suite facility should comply with table 2 (page 23) and have a maximum opening pressure of 20N.
- En-suite facilities should comply with the provisions for wheelchair accessible bath and shower facilities.
- The size of the room should allow a wheelchair user to manoeuvre at the side of the bed and transfer independently.
- An emergency assistance alarm and reset button should be located in the bedroom and be activated by a pull-cord that can be operated from the bed or the floor.
- Openable windows and window controls should be located between 800mm and 1000mm above the floor and be easy to operate without the need to use both hands simultaneously.
- On the outside of the room the call signal should be easily seen and heard and linked to a central control point.

Switches, Outlets and Controls

- Wall mounted socket outlets, telephone points and television sockets should be located between 400mm and a 1000mm above the floor with a preference for the lower end of the range.
- Switches for permanently wired appliances should be located between 400 and 1200mm above the floor.
- All switches and controls that require precise hand movements should be located between 750mm and 1200mm above the floor.
- Controls that need close vision should be located between 1200mm and 1400mm from the floor, so readings can be taken from a seated or standing position.
- Sockets should be at least 350mm from any room corners.
- Light switches for use by the general public should be large push pads and align horizontally with the door handles within the range between 900mm to 1100mm from the floor. Where this cannot be achieved pull cords should be provided in the same height range.
- The front plates of sockets should contrast visually from the background and have a clear indication that they are ON.

FACILITIES IN BUILDINGS OTHER THAN DWELLINGS

Aids to Communication

Detailed guidance on surface finishes, visual, audible and tactile signs as well as the characteristics and appropriate choice of hearing enhancement systems is given in BS 8300.

- Provision for a hearing enhancement system should be installed in rooms and spaces designed for meetings, lectures, classes, spectator sport or films and at service or reception counters, particularly in noisy areas or where they are behind glass screens.
- All facilities should be indicated with the appropriate symbol and signage.

Fig. 29

Fig. 30

FACILITIES IN BUILDINGS OTHER THAN DWELLINGS

Sanitary Conveniences

UNISEX WHEELCHAIR ACCESSIBLE TOILETS

- Suitable sanitary accommodation should be provided for all building users. This will involve combinations of general provision, accommodation for ambulant disabled people and others who need more space, and wheelchair users.

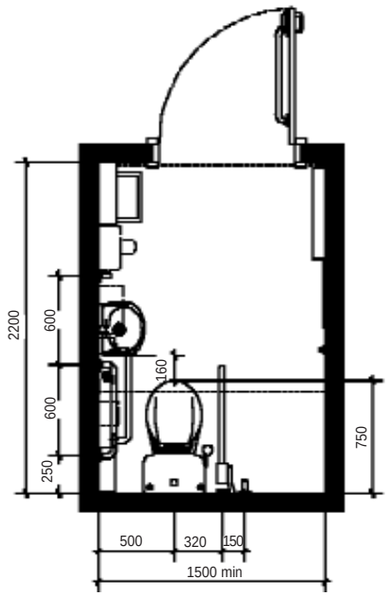
- A unisex toilet should be provided as close as possible to the entrance or waiting area of a building and be provided and located in a similar position on each floor of a multi-storey building. There should be right and left handed transfer on alternate floors.

- If two unisex facilities are provided side by side, left and right hand transfer should be accommodated.

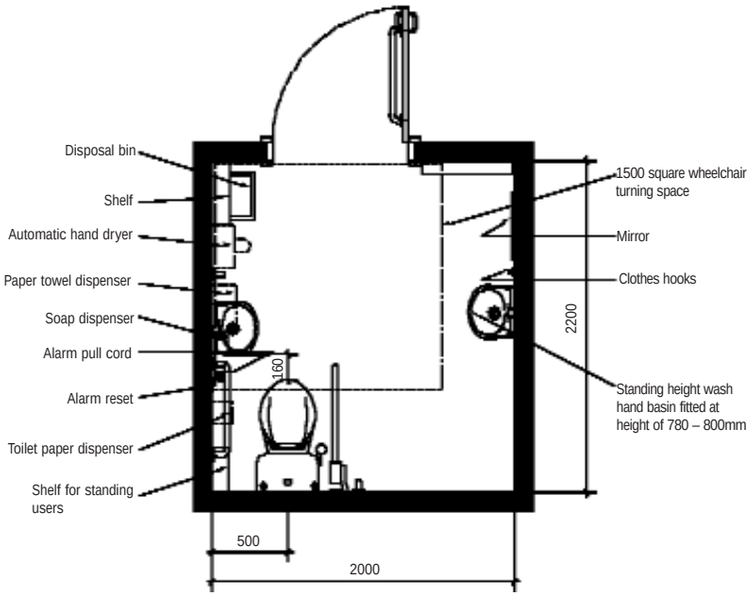
- Where there is space only for one toilet in a building, it must be a unisex wheelchair accessible toilet and thus accessible for all users.
  This can be achieved by increasing the width from 1500mm to 2000mm thus creating sufficient space to accommodate an additional washbasin at 780 – 800mm standing height.
  A wheelchair user should not have to travel more than 40 metres on the same floor or more than 40 metres combined horizontal travel if the toilet is on another floor of the building and is accessible by passenger lift. In a building with a lifting platform vertical travel to the toilet shoulld be limited to one storey

- Doors should be outward opening with a horizontal closing bar on the inside face.

Unisex accessible corner WC.

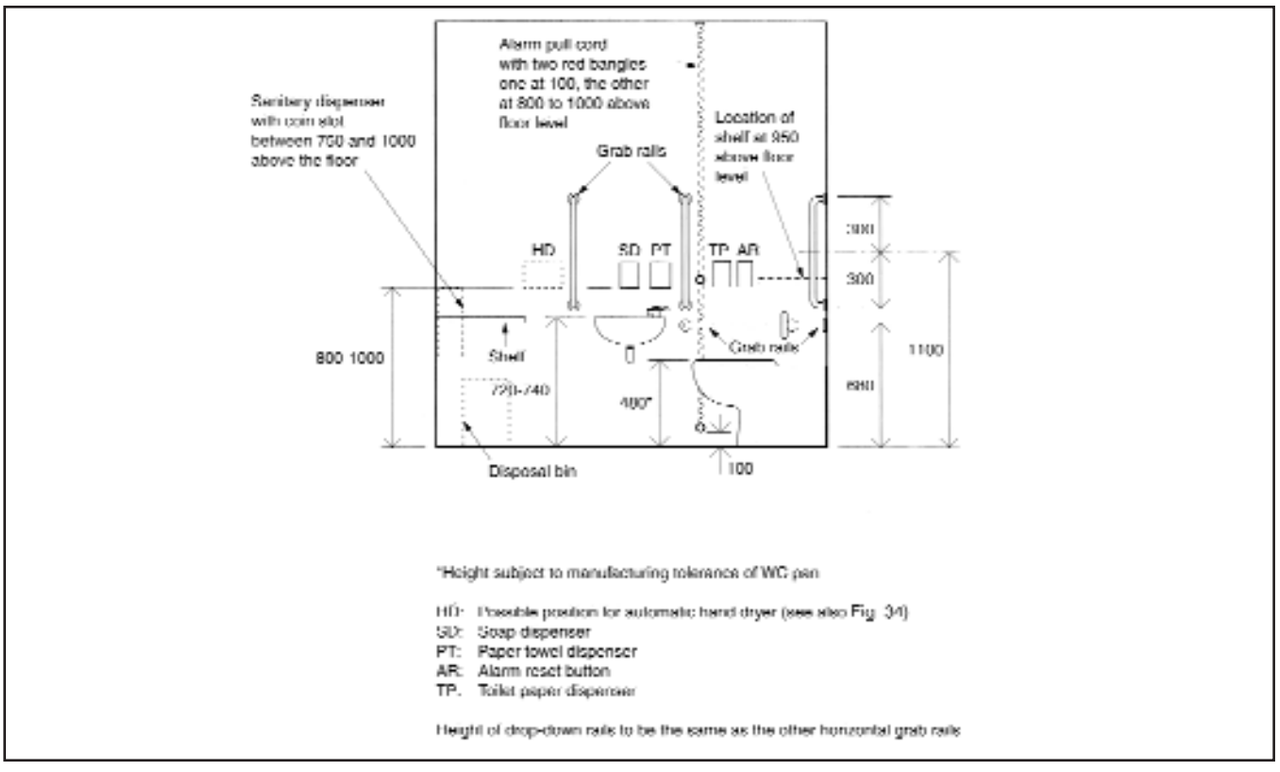


Layout for only unisex facility in building



Sanitary Conveniences

Fig. 32 **Heights and arrangement of fittings in a unisex wheelchair-accessible toilet** (looking towards wall A in Fig. 31)

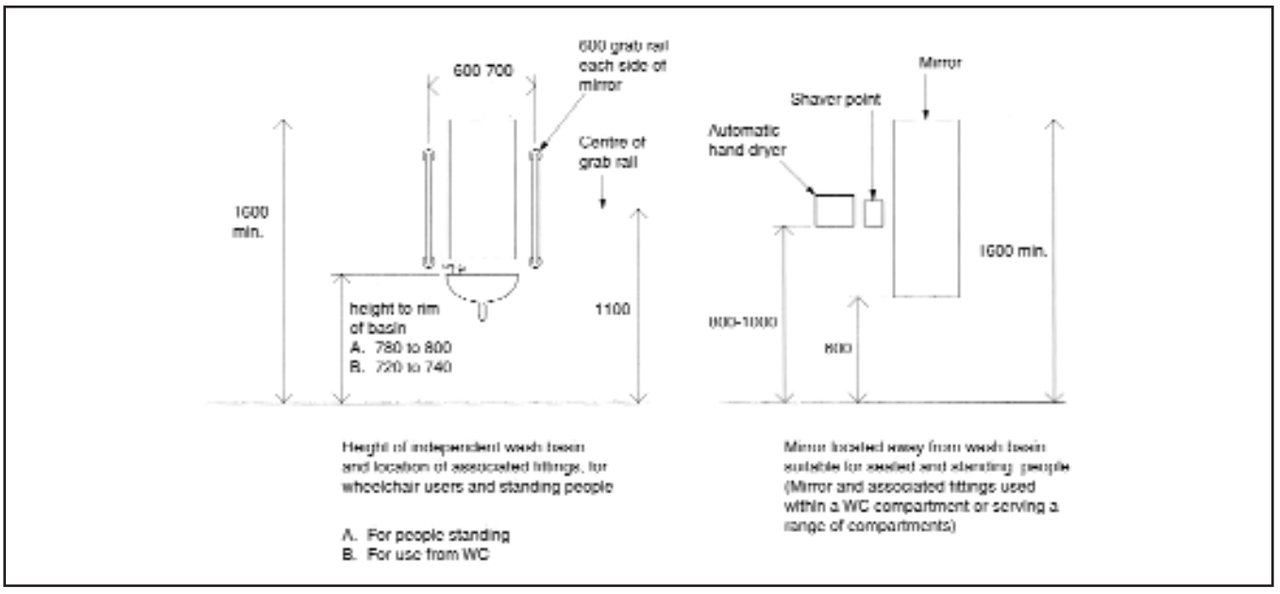


*Height subject to manufacturing tolerance of WC pan

HD: Possible position for automatic hand dryer (see also Fig. 34)
SD: Soap dispenser
PT: Paper towel dispenser
AR: Alarm reset button
TP: Toilet paper dispenser

Height of drop-down rails to be the same as the other horizontal grab rails

Fig. 33 **Heights of various fittings in toilet accommodation**



Height of independent wash basin and location of associated fittings, for wheelchair users and standing people

A. For people standing
B. For use from WC

Mirror located away from wash basin suitable for seated and standing people (Mirror and associated fittings used within a WC compartment or serving a range of compartments)

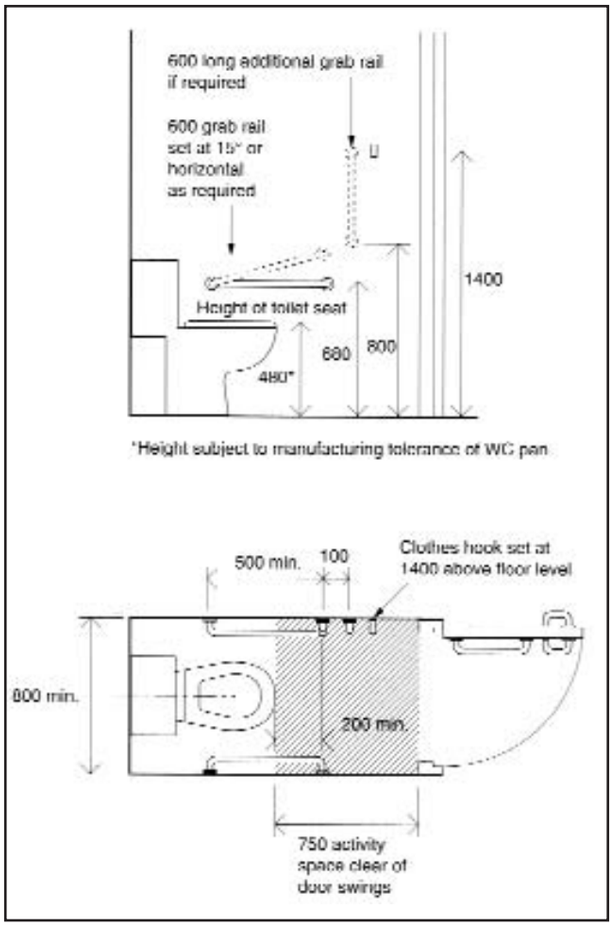
FACILITIES IN BUILDINGS OTHER THAN DWELLINGS

Sanitary Conveniences

GENERAL ADVICE

- At least one cubicle in same sex toilets should be designed for the ambulant disabled persons, as shown in Fig. 34.
- Where there are four or more cubicles in a same sex toilet one of these should be enlarged for use by people who need extra space, like parents with young children or people with shopping or luggage. Minimum width of these toilets should be 1200mm.
- Baby change units should wherever possible be provided in these units.
- Taps on baths or wash basins should be controlled automatically or can be operated using a closed fist, eg lever action.
- Door handles and other ironmongery should comply with the provisions for internal doors.
- Doors to WC compartments, and wheelchair accessible unisex toilets, changing or shower rooms should be fitted with light action privacy bolts so they can be operated by people with limited dexterity. If required to self-close, they should be openable with a force no greater than 20N.
- Any fire alarm should emit a visual and audible signal.
- Emergency assistance alarms should have:
  - Both visual and audible indicators, to confirm that an emergency call has been received.
  - A signal which is different from the fire alarm.
  - A re-set control reachable from the wheelchair or shower or changing room seat.
  - Lighting controls to conform to the provisions for switches and controls.

Fig. 34 **WC cubicle for ambulant disabled people**

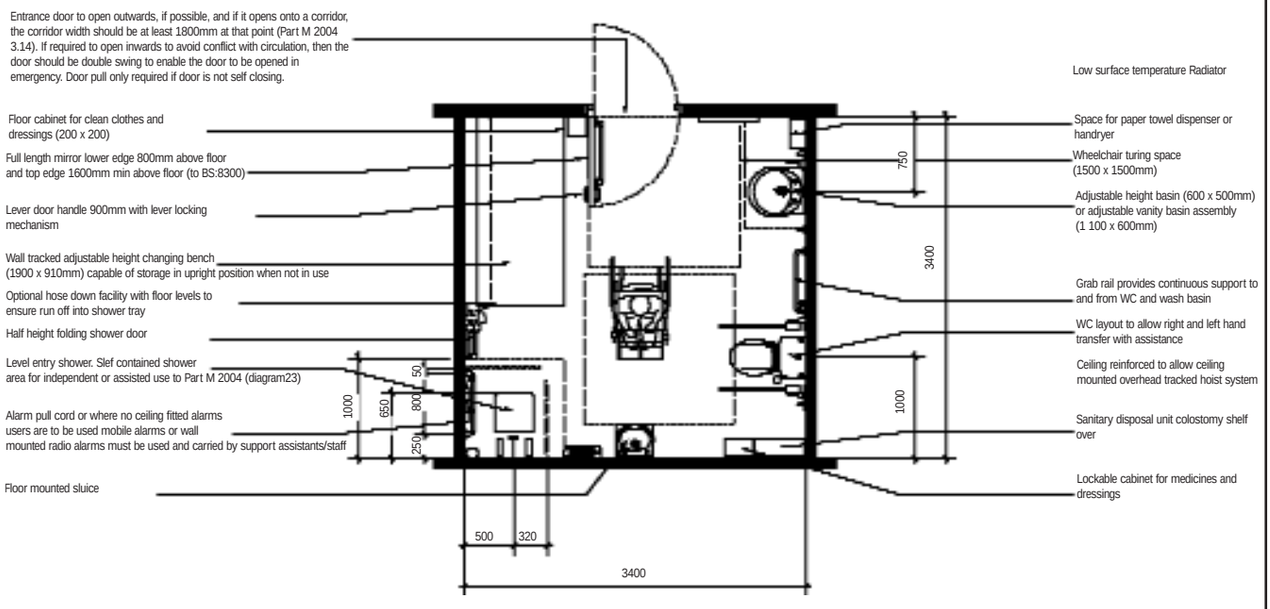


- Heat emitters are screened or their surface temperature is kept below 43 degrees centigrade.
- All fittings and grab-rails should contrast visually with the background wall and floor finish and there should be contrast between the walls and floor.
- In larger premises e.g. shopping centres, leisure facilities etc. consideration should be given to the provision of an appropriate Hygiene room.

FACILITIES IN BUILDINGS OTHER THAN DWELLINGS

Sanitary Conveniences

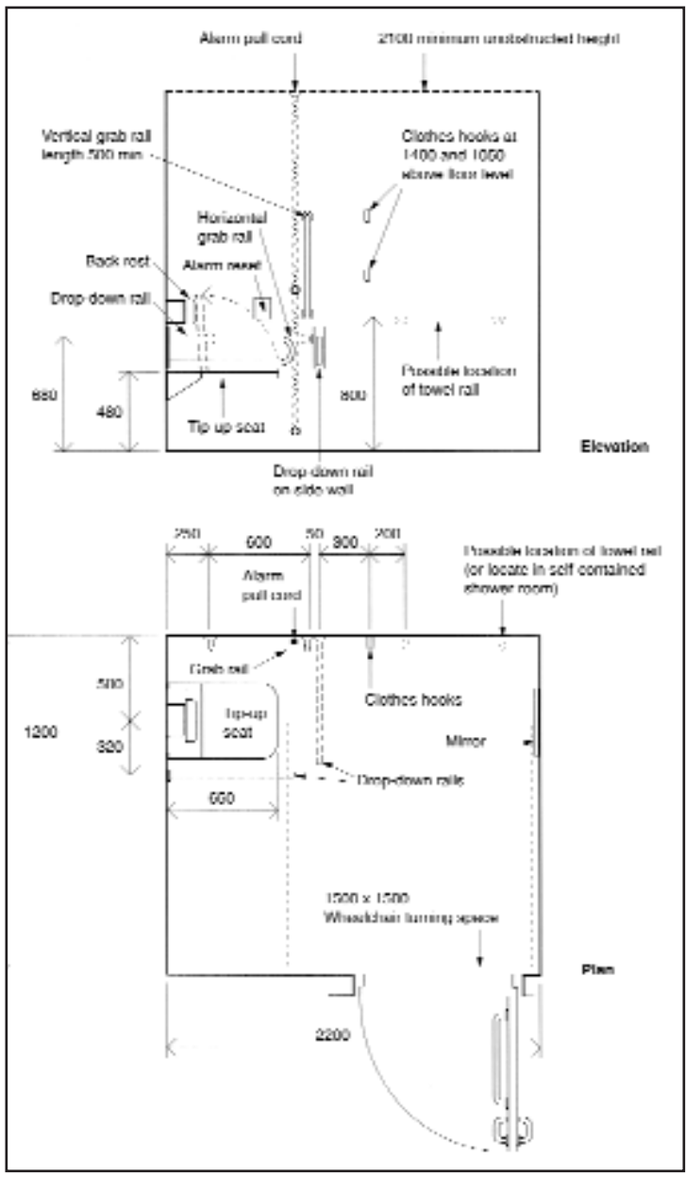
3.4 x 3.4 m Hygiene Room with peninsular wc & corner shower



Wheelchair Accessible Changing and Shower Facilities

- Where more than one unit is provided provision for left or right handed transfer should be made.
- Should provide wall mounted drop down support rails and wall mounted, slip resistant tip up seats (Not spring loaded).
- In sports facilities individual self contained shower facilities should be provided in addition to communal separate sex facilities.
- A shower curtain should be provided that covers the seat and rails when in the horizontal position and can be opened and closed from the shower seat.

Fig. 35 **An example of a self-contained changing room for individual use**



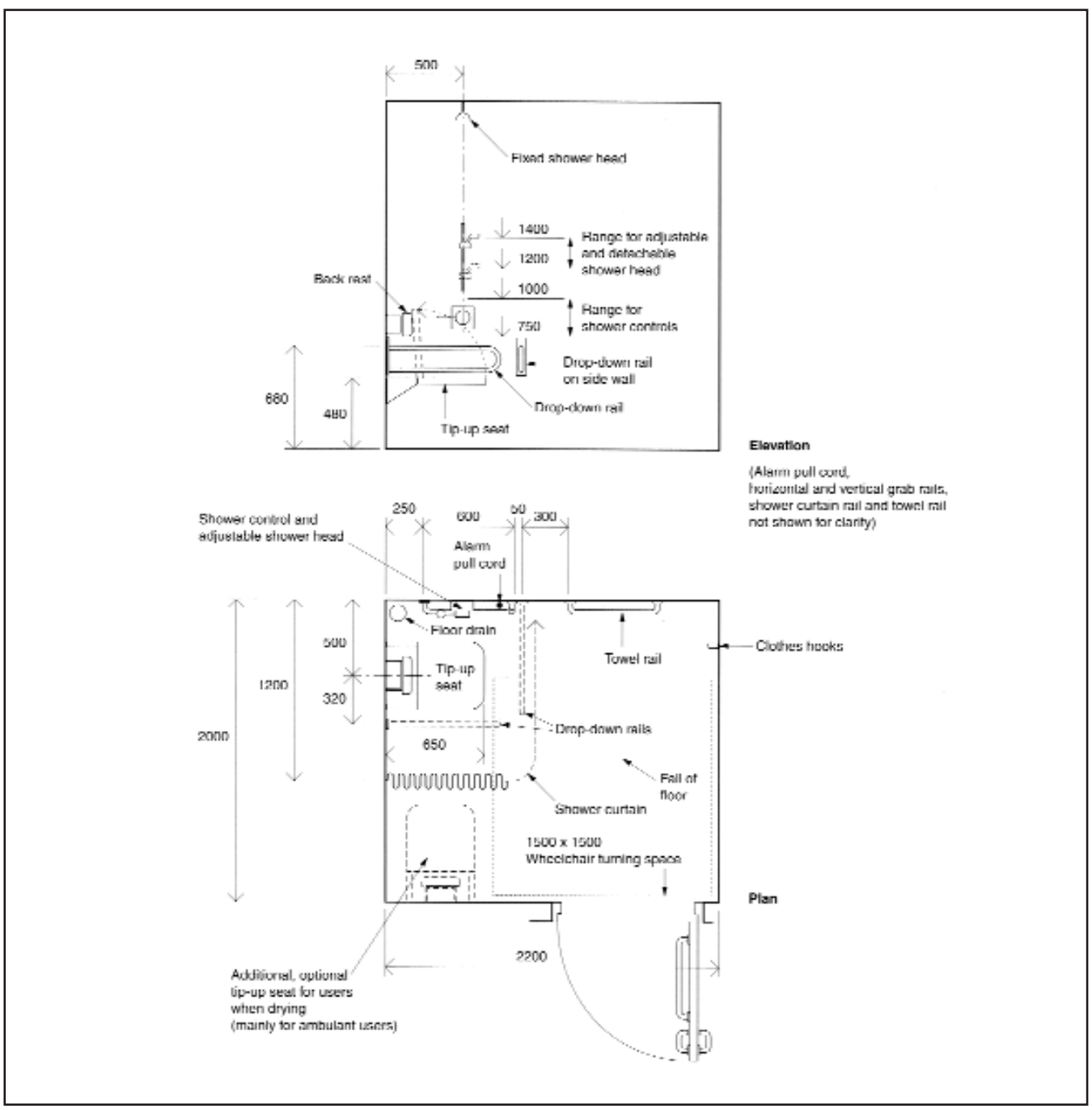
- A shelf that can be reached from the seat or wheelchair should be provided for toiletries.
- An emergency assistance pull cord should be easily identifiable and can be reached from the seat or the floor, the assistance alarm should be as for sanitary accommodation.
- Facilities for limb storage should be included for the benefit of amputees.
- When associated with shower facilities the floor should be level and slip resistant when dry or wet.
- There should be a manoeuvring space of at least 1500mm deep in front of lockers.

FACILITIES IN BUILDINGS OTHER THAN DWELLINGS

Wheelchair Accessible Changing and Shower Facilities

- Where showers are provided in commercial developments for the benefit of staff, at least one wheelchair accessible shower compartment should be provided.
- Shower controls in communal showers should be positioned between 750mm and 1000mm above the floor.

Fig. 36 **An example of a self-contained shower room for individual use**



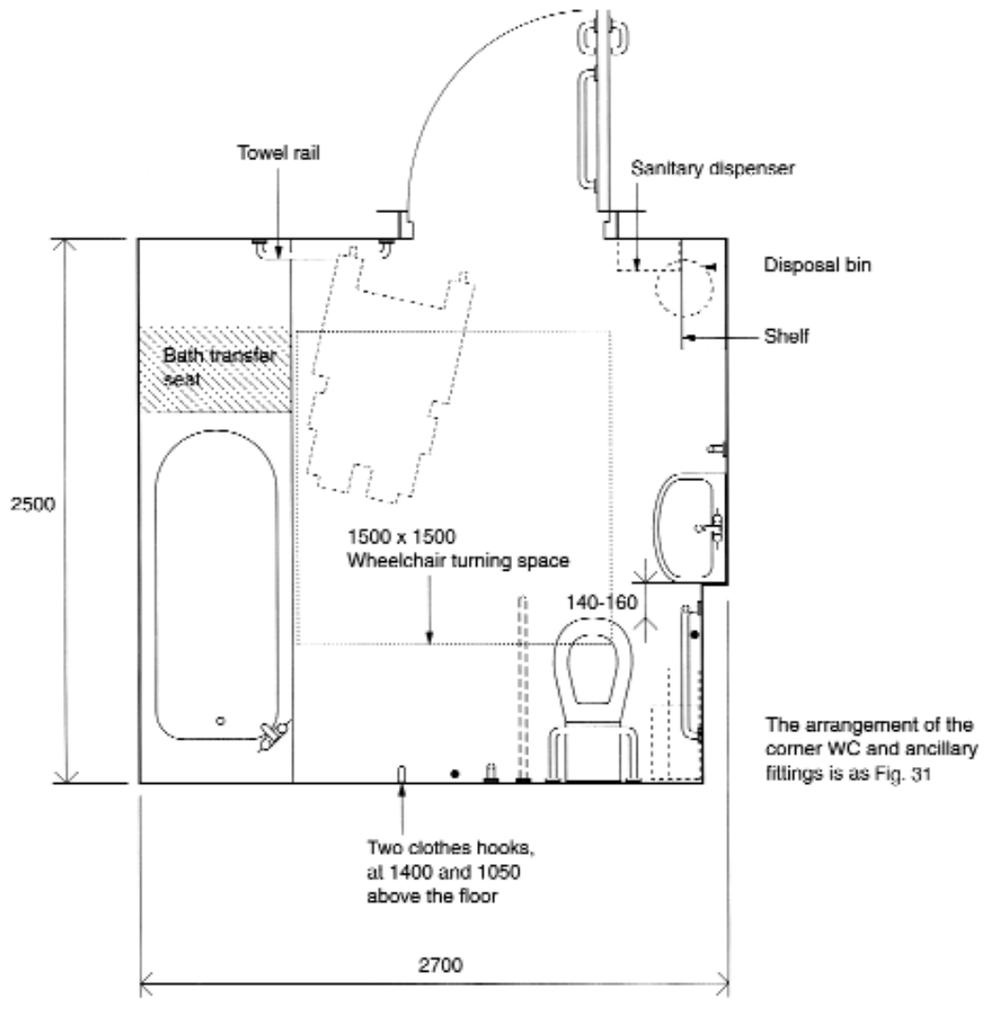
FACILITIES IN BUILDINGS OTHER THAN DWELLINGS

Wheelchair Accessible Bathrooms

This guidance covers wheelchair accessible bathing facilities in hotels, motels, student accommodation and relatives' accommodation in hospitals.

- A choice of left or right handed transfer should be provided where more than one accessible bathroom is provided.
- The bath should be provided with a transfer seat 400mm deep and equal to the width of a bath.

Fig. 37 **An example of a bathroom incorporating a corner WC**

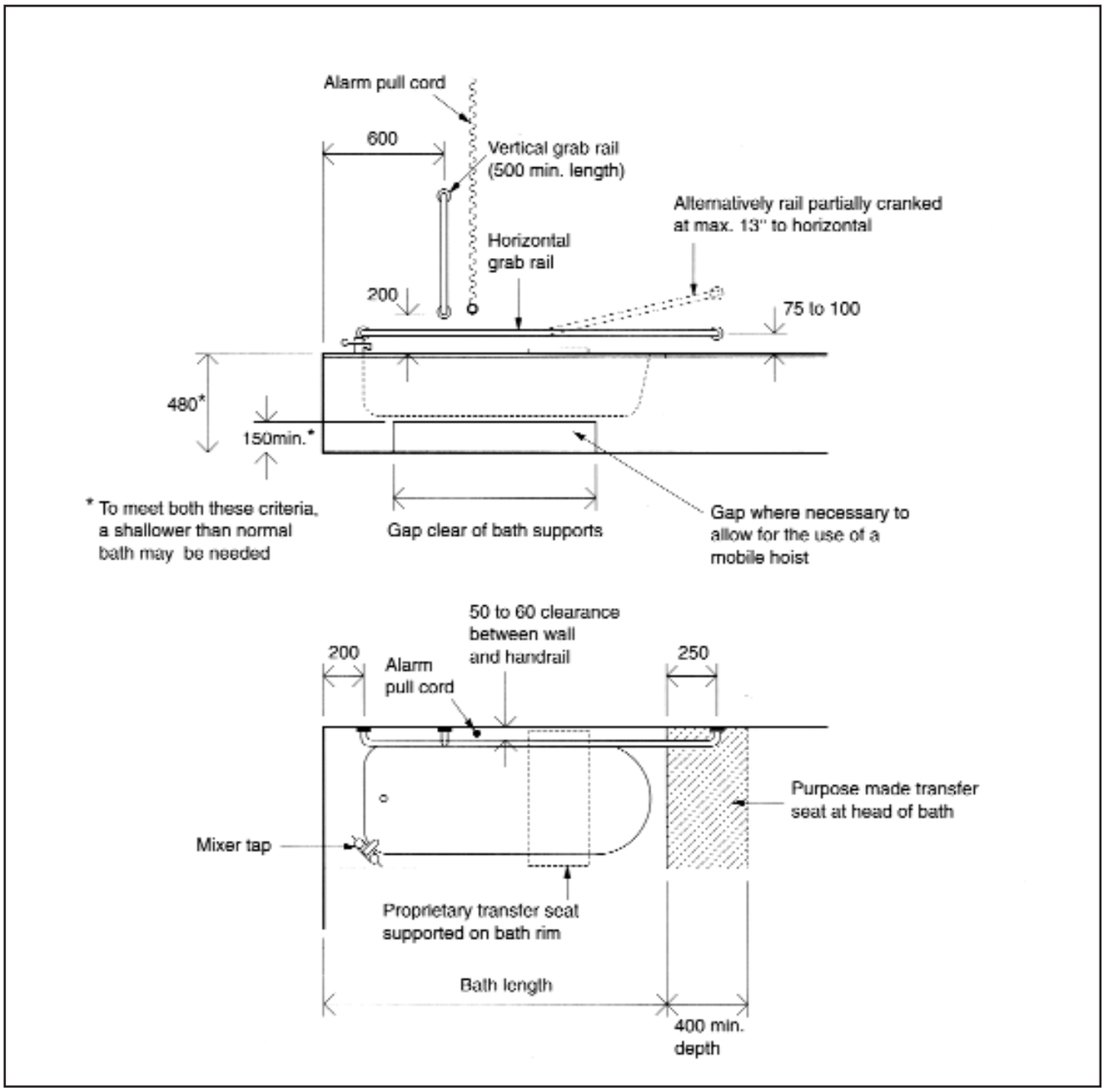


Note
Layout shown for right hand transfer to bath and WC

Wheelchair Accessible Bathrooms

- Doors should open outwards and be fitted with a horizontal closing bar fixed to the inside face.
- The room should be fitted with a pull cord and assistance alarm.

Fig. 38 **Grab rails and fittings associated with a bath**



Accessibility

On 25th October 1999, Part M of the Building Regulations was amended to improve accessibility for visitors to all new dwellings. It is not intended to create lifetime homes. Reasonable access is required into the dwelling within the boundaries of the plot. Generally, a level or ramped approach is required to the principal entrance, with a gradient not exceeding 1:20 and not less than 900mm wide.

If site topography prevents this, and the plot gradient exceeds 1:20, a ramp may be required. This requires a firm and even surface, a minimum width of 900mm, 1.2m top, bottom and intermediate landings, and a gradient no steeper than 1:12, broken into 5m lengths.

If the plot gradient exceeds 1:15, a stepped approach will be acceptable, providing the steps are designed to meet the needs of an ambulant disabled person (see below).

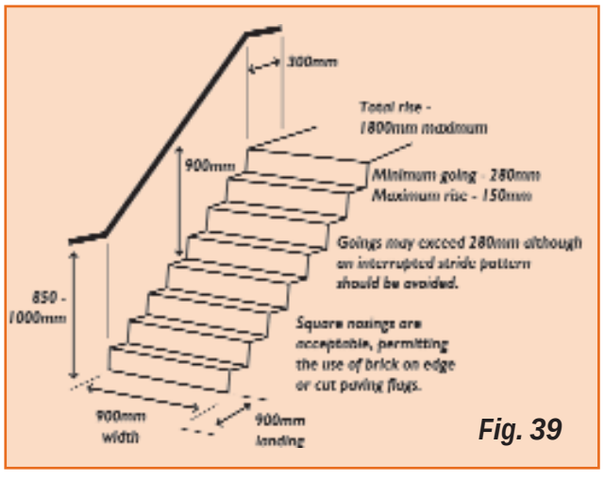


Fig. 39

- The approach cannot be made of loose laid materials such as gravel or shingle.
- The presence of a driveway might provide a better opportunity for creating a level or ramped approach, either from the pavement or footpath or from a car parking space.
- The width of the approach, excluding the space for parked vehicles (approximately 2.1 metres) should not be less than 900mm.
- Access to the dwelling or block of flats must be via an accessible threshold. This should be designed to take into account the requirements of other parts of the Building Regulations including resistance to weather and ground moisture.

Timber sill and external concrete slab paving

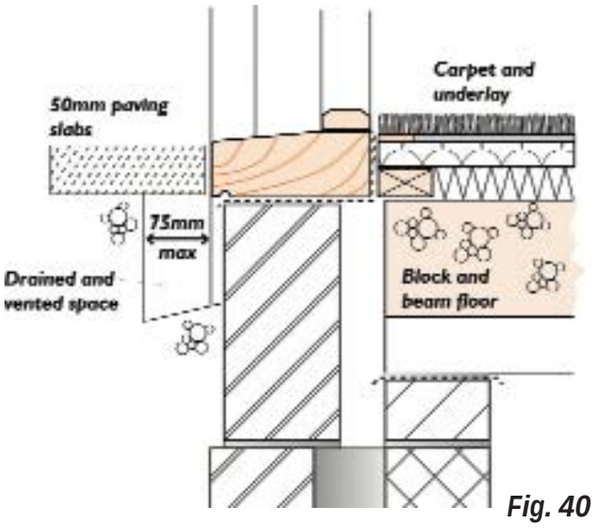


Fig. 40

Concrete sill and internal transition unit

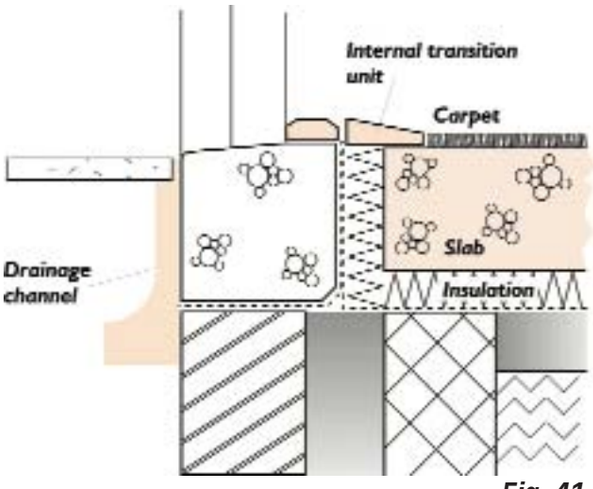


Fig. 41

Circulation

The DETR published a design guide for accessible thresholds in new housing, which is available from The Stationery Office (ISBN 011 702333 7). This document provides design solutions for suitable thresholds in many situations which minimise the risk of moisture ingress. Guidance is provided on suitable sill and threshold profiles, provision of drainage channels, treatment of internal floor finishes and external hard landscaping.

Table 4 – Minimum widths of corridors and passageways for a range of doorway widths

Door clear opening width (mm)	Corridor / passageway width (mm)
750 or wider	900 (when approach is head-on)
750	1200 (when approach not head-on)
775	1050 (when approach not head-on)
800	900 (when approach not head-on)

- Circulation within the entrance storey of the building must be possible for wheelchair users, providing access via doorways, corridors and passageways to the kitchen, habitable rooms and a room containing a w.c.
- An obstruction free zone of 900mm wide must be maintained outside the w.c. and opposite door openings in general. This zone should extend 200mm both sides of the projected edges of the clear opening.
- On steeply sloping sites a change in level within the entrance storey may be unavoidable. A 900mm wide staircase complying with Park K with handrails on each side if there are three or more risers would suffice.
- Switches and sockets on all levels within the dwelling should be located within an accessible zone. This is to assist people who's reach is limited to use the dwelling more easily.
- If a building contains flats, provision must be made for disabled people to visit occupants on any storey. This may be via the installation of a suitably dimensioned and designed lift or via common stairways designed for use by ambulant disabled and visually impaired people. See Section Vertical Circulation within the Building.

Internal doors, passages and corridors

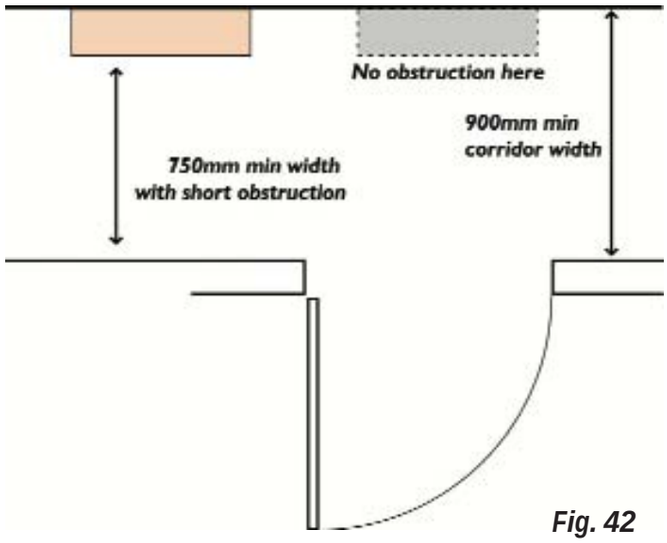


Fig. 42

Location of switches, sockets, etc for accessibility

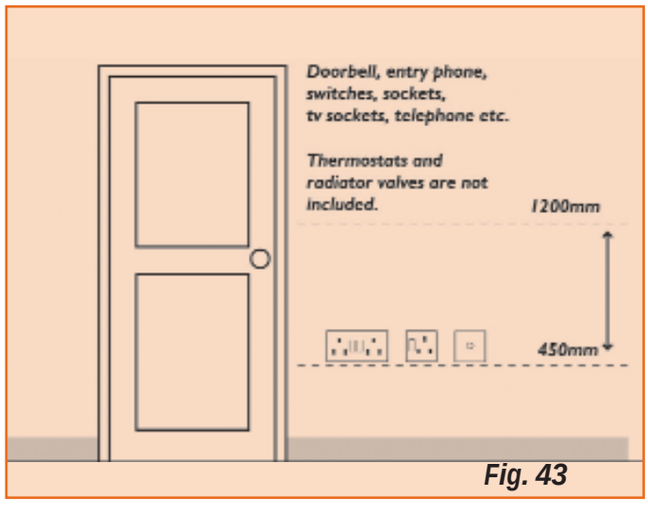


Fig. 43

WCs within Dwellings

A WC should be provided in the entrance storey of the dwelling. This should be located such that it can be reached from the habitable rooms in that storey without using stairs. (If the entrance storey contains no habitable rooms the WC may be provided in the principal storey).

The door to the WC should

- open outwards
- have a clear opening width as described previously
- be positioned to enable wheelchair users to access the w.c.

N.B. The compartment does not have to fully accommodate a wheelchair, and handrails are not required.

Clear space for frontal access to WC

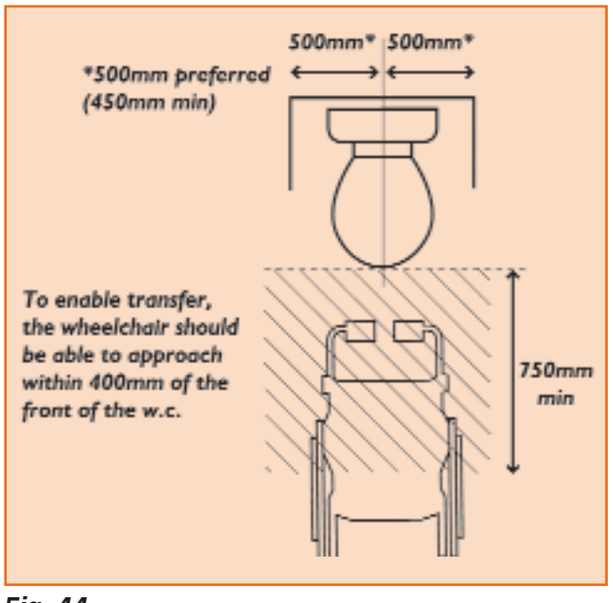


Fig. 44

The minimum width of the compartment is 900mm, but prescriptive layouts have not been imposed. Consideration should be given to the location of the wash basin, particularly in very small rooms.

Clear space for frontal access to WC

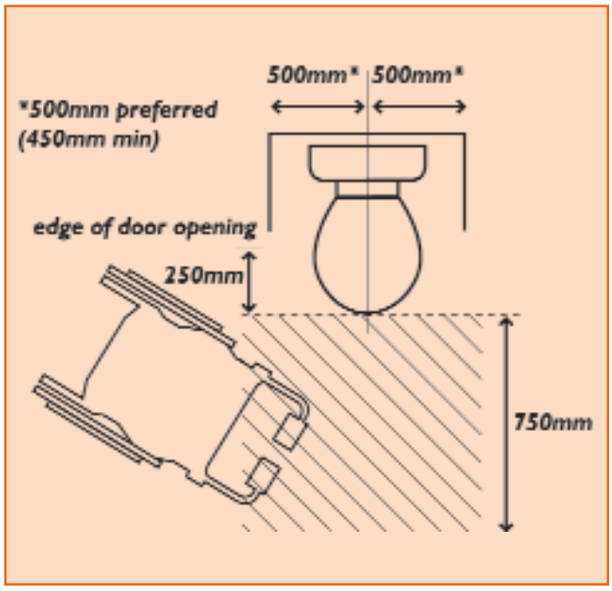


Fig. 45

It is intended that these improved standards will not only help disabled people to visit other homes more easily, but will also enable more people to remain in their homes for longer as they become less mobile with age.

Signs and Symbols

Fig. 46

- The international symbol of accessibility; the setting out of the symbol should be based on a square tile as shown.

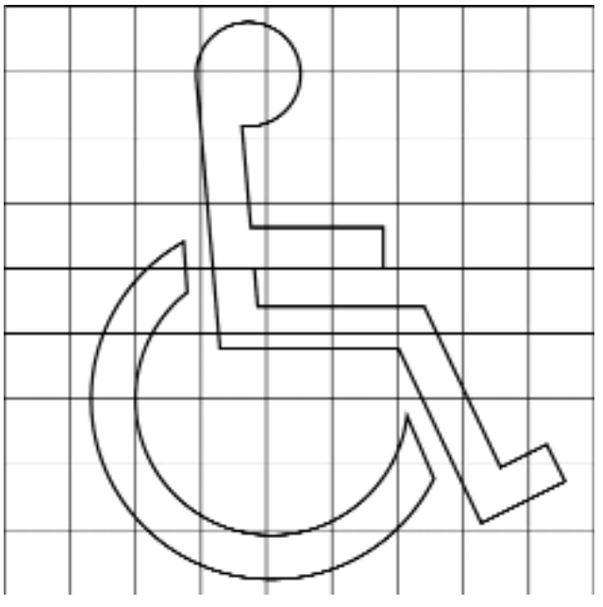


Fig. 47

- Signs should be consistent, thorough and continuous along routes and should take account of the need for reassurance.
- Ensure legibility of signs and lettering by attention to size and style and by use of strong colours, good immediate background and non-distracting general background and by good lighting without glare.
- Lettering should be within visual range and provide good contrast against the background.

Waiting room

- Raised letters are helpful to blind people particularly. They should be within hand reach at a reasonable level. Ensure the background surface is comfortable to touch. Confine to single letters, numeral, symbols and keep to standard positions in a building.
- Symbols should be as near pictorial as possible. Standard symbols should indicate specific facilities, i.e. induction loop information, communications, assistance available if required.

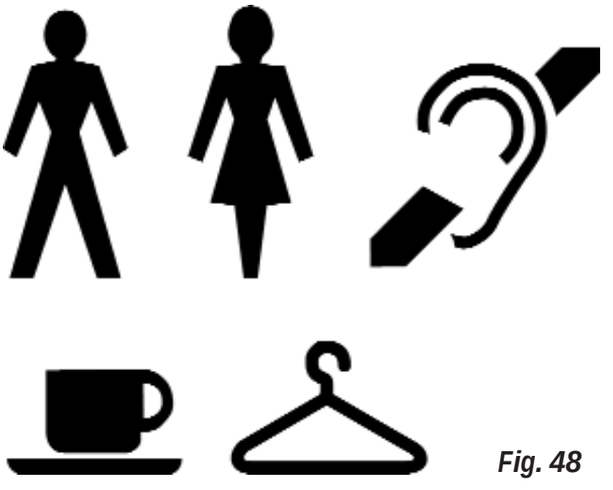


Fig. 48

Anthropometric Data

- The formulation of design criteria for buildings depends to a considerable extent on the dimensional characteristics of people at rest and moving and on their range of physical capabilities. In the case of people with disabilities, these criteria may be modified by the use of aids such as sticks, artificial limbs and wheelchairs.

- To determine appropriate limits for the range of the population to be accommodated, the statistical technique of percentile distribution is used.

- For example, for the head-height of chairbound men's, the value of 1:235 for the fifth percentile means that five per cent of chairbound mens' head height when in a wheelchair is at 1:235 or less; The value 1:435 for the 95th percentile means that 95 per cent at 1:435 high or shorter.

The figures below show the relevant dimensions.

MEN

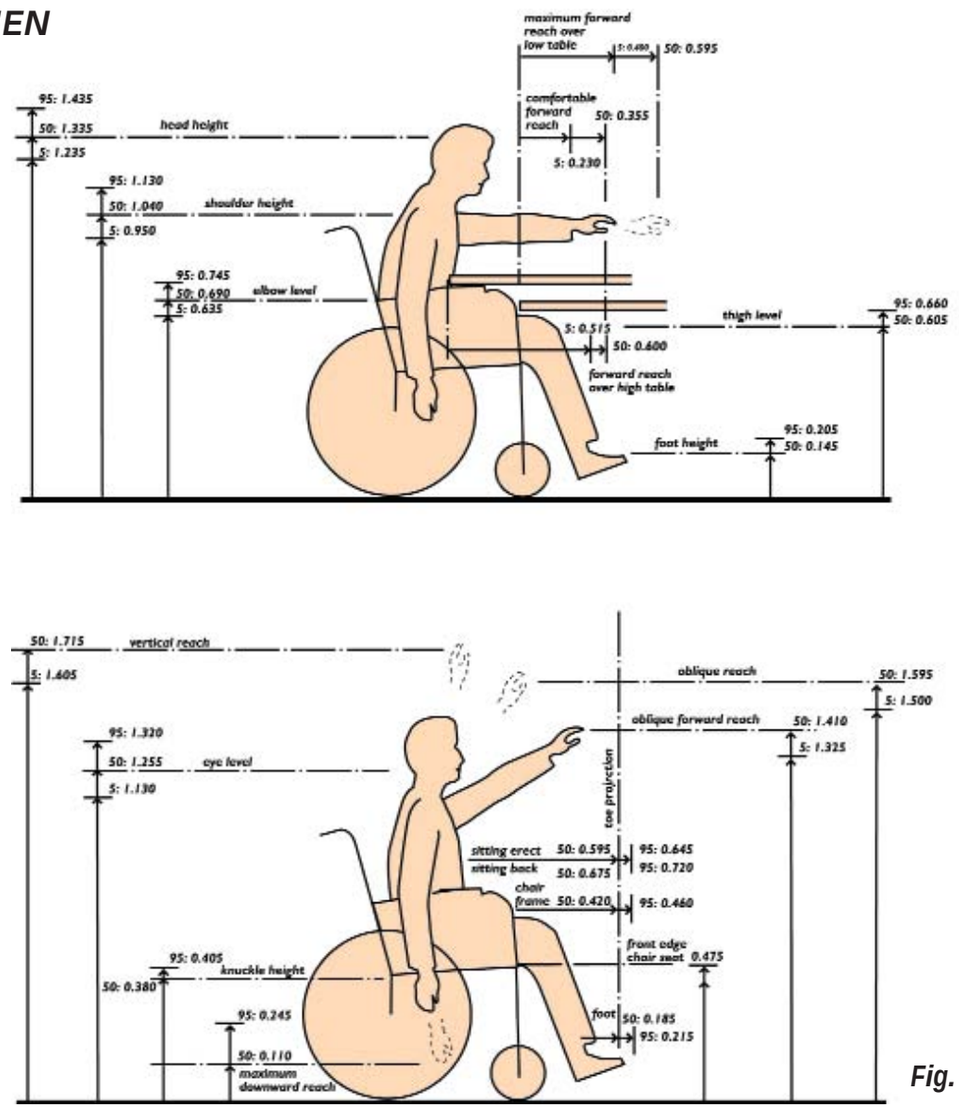


Fig. 49

INTERIOR ERGONOMICS

Anthropometric Data

- Although in certain situations, it is appropriate to use the average as a criteria, it must be emphasised that averages should be treated with caution. It is hazardous to make decisions on the basis of catering for the average man or woman. In a representative sample of population, 50 per cent of measurements will be greater than the average and 50 per cent will be less. Dimensions based on the average will therefore at best satisfy only 50 per cent of potential users.

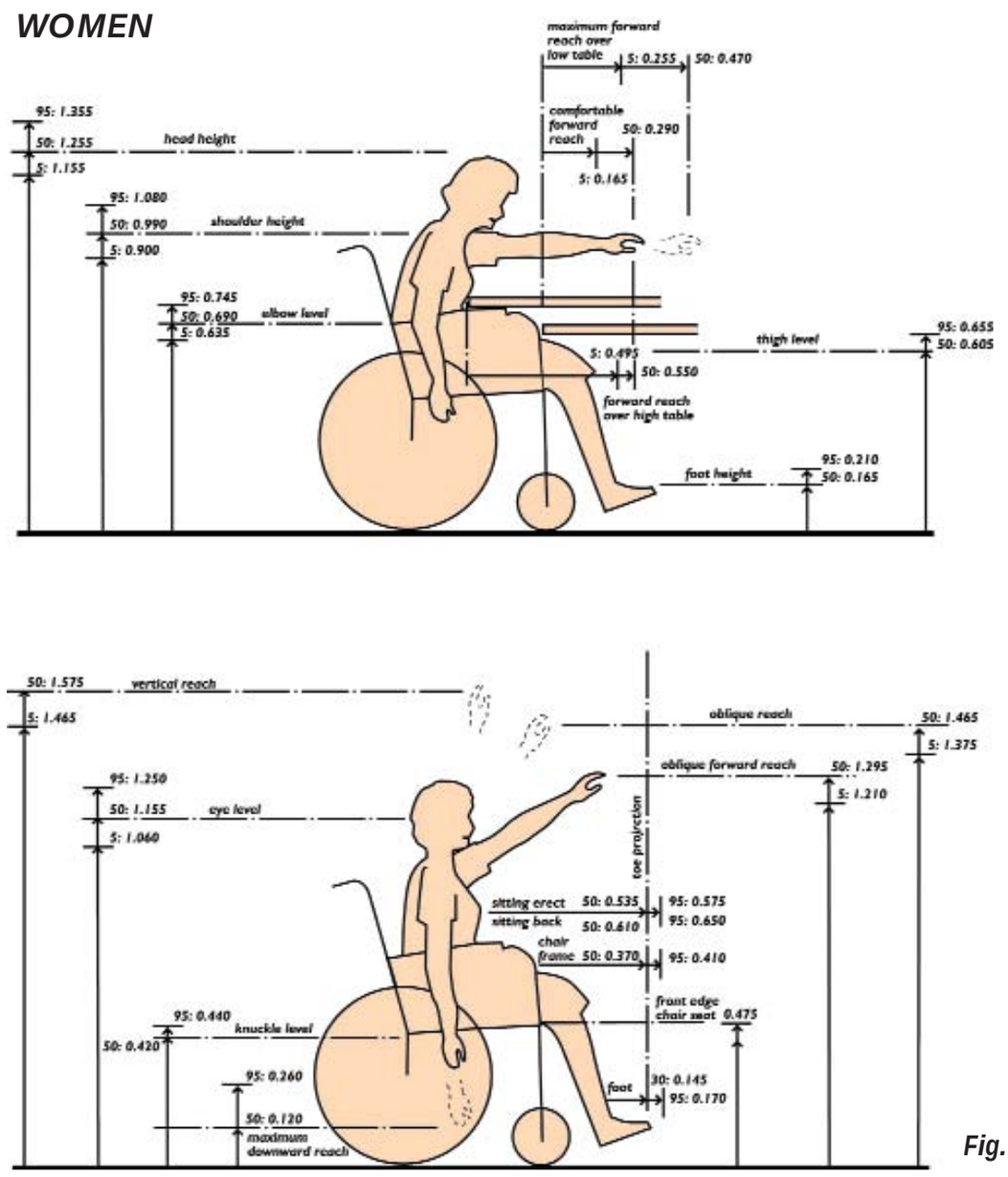
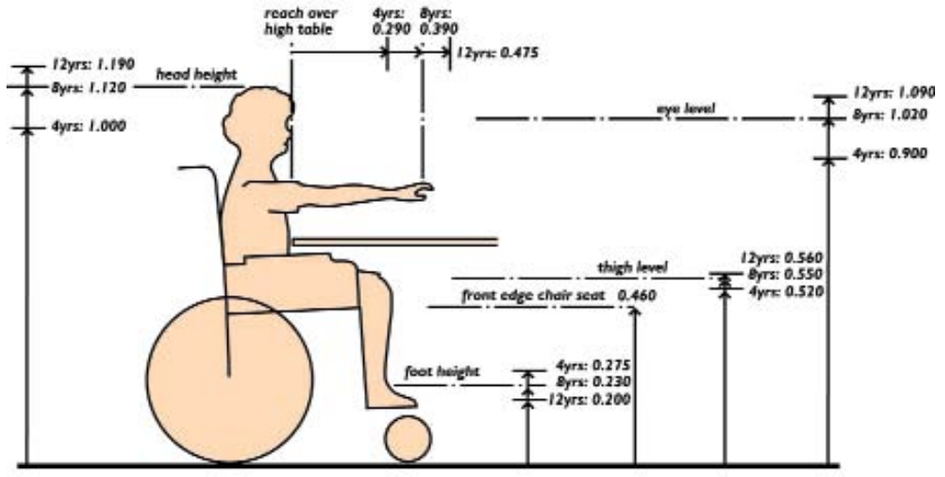


Fig. 50

Anthropometric Data

- When data is applied to design problems, it is usually found that there is a limiting factor in one direction only, e.g. if the problem relates to obstructions at head-height, the measures of short people are not significant. in applying data, the designer should enquire which dimension is critical.
- It is not the case that whenever the value for the 95th percentile is observed, 95 per cent of the population will be accommodated; if the critical dimenson is in the opposite direction, only five per cent will be accommodated and the correct course is to apply the 5th percentile instead.

GIRLS AGED 4, 8 AND 12



BOYS AGED 4, 8 AND 12

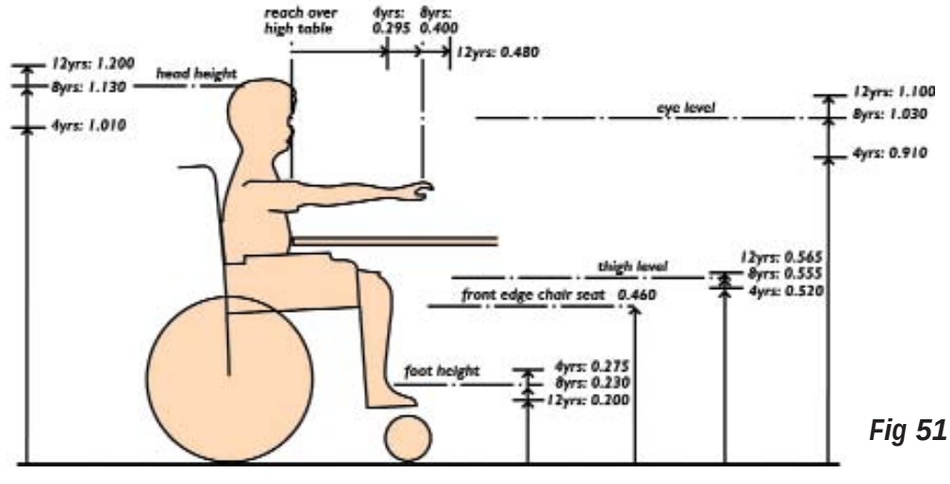
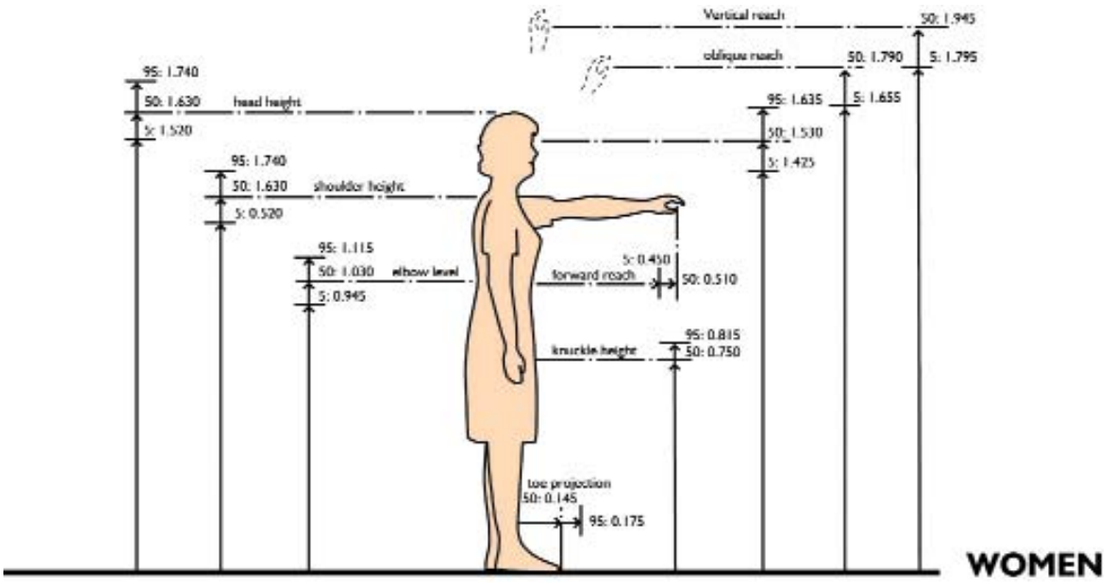


Fig 51

Anthropometric Data

AMBULANT PEOPLE

- It is not always economic or practicable to cover 100 per cent of the population by catering for people at the extremes. It may not be possible to obtain a solution to a specific design problem, which is equally efficient for a typical ambulant person and a person in a wheelchair.



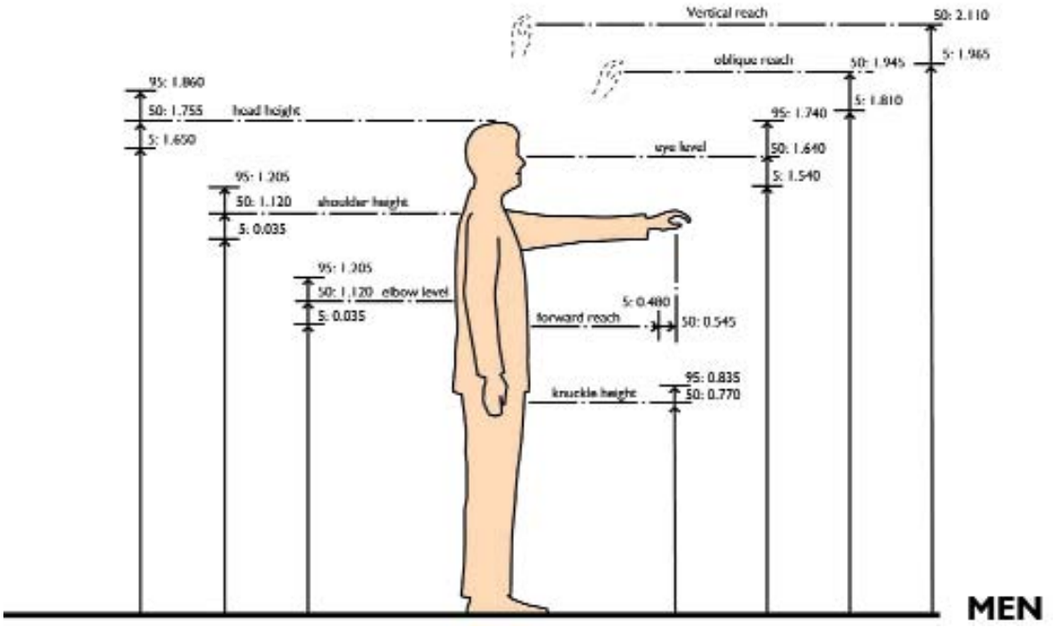


Fig 52

Ergonomic Data

AMBULANT PEOPLE

- The convenient positioning of fittings and equipment is governed by body and reach dimensions. The general application of the recommendations should ensure that fittings and equipment are suitably located.

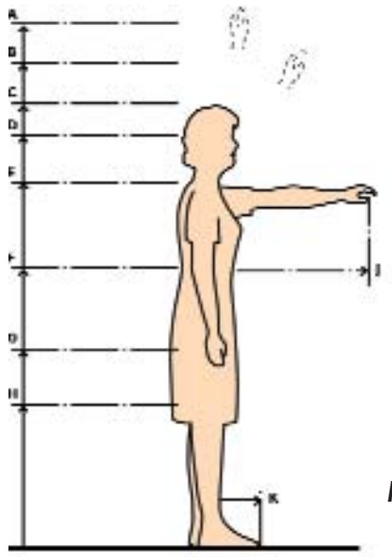


Fig 53

MEASUREMENTS OF STANDING PERSON

A. Comfortable vertical reach

A: minus 0.070: maximum height of storage shelves, allowing access to front of shelf.

A: minus 0.150: maximum height of 0.300 deep storage shelves over 0.600 floor units, allowing access to front of shelf.

B. Oblique vertical reach

B: maximum height of window and blind controls.

B: minus 0.060: maximum height of 0.200 deep storage shelves over 0.600 floor units, allowing access to front of shelf.

B: minus 0.080: maximum height of unobstructed storage shelves, allowing reach to back of shelf.

C. Head height

C: relate to fixed mirror heights and position of shower fittings.

D. Eye level

D: avoid window transomes at this level.

D: related to fixed mirror heights.

E. Shoulder level

E: preferred maximum height of switches and controls.

F. Elbow level

F: minus 0.130: preferred level of kitchen surfaces where sink rim and general work surfaces are at the same height.

F: minus 0.100: preferred level of sink rim.

F: minus 0.150: preferred level of general work surfaces.

F: minus 0.100: preferred level of wash basin rim.

F: minus 0.250: preferred level of fixed ironing board.

G. Knuckle height (comfortable downward reach)

G: lower level of preferred zone for most-used articles stored in kitchen.

G: preferred minimum height of socket outlets and other controls.

G: preferred height of letter basket and delivery shelves adjacent to entrance door.

H. Effective downward reach

H: minimum height of storage shelves, socket outlets, heater controls and oven floor.

J. Comfortable forward reach

J: plus 0.100: maximum depth of kitchen work surfaces.

J: preferred maximum dimension, sink fascia to sink tops.

K. Toe projection

K: preferred minimum depth, toe recesses to kitchen units.

INTERIOR ERGONOMICS

Ergonomic Data

WHEELCHAIR USERS

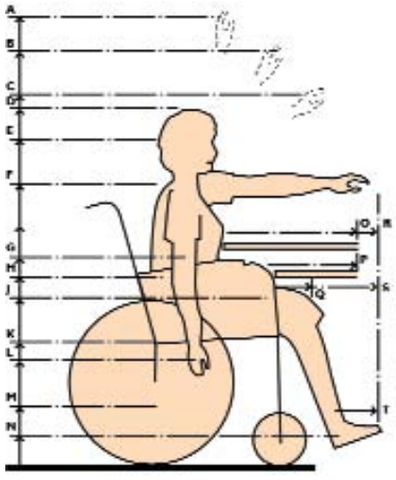


Fig 54

MEASUREMENTS

A. Comfortable vertical reach
A: minus 0.070: maximum height of unobstructed storage shelves with lateral approach, reach to front of shelf.

B. Oblique vertical reach
B: maximum height of window and blind controls.
B: minus 0.120: maximum height of 0.300 deep storage shelves over 0.600 floor units, allowing reach to front of shelf.
B: minus 0.160: maximum height of unobstructed storage shelves with frontal approach, allowing reach to back of shelves.

C. Comfortable forward vertical reach
C: preferred maximum height of window and other controls.
C: maximum height of electric switches.

D. Head height
D: related to height of shower fittings.

E. Eye level
E: avoid window transomes at this level; relate to sill heights.
E: relate to fixed mirror heights.

F. Shoulder level
F: plus 0.100: upper level of preferred zone for most-used articles stored in kitchen.
F: preferred maximum height of electric switches.

G. Chair armrest level
G: maximum unobstructed dimension below work surfaces or tables to permit close approach.

H. Elbow level
H: plus 0.020: preferred height of letter basket and delivery shelves adjacent to entrance door.
H: minus 0.030: preferred height of pull-out for food preparation.
H: minus 0.040: preferred height of fixed ironing board.

J. Thigh level
J: minimum unobstructed vertical dimension for knee recesses to tables, desks, kitchen sink, preparation centre and wash hand basin.
J: plus 0.160: preferred height of kitchen work surfaces at consistent level assuming 0.150 deep sink bowl.

K. Chair seat level, centre front edge (with cushion if used)
K: preferred level of w.c. seat, platform at head end of bath and shower seat.

L. Knuckle height
L: plus 0.100: minimum height of heater controls.
L: plus 0.050: lower level of preferred zone for most-used articles stored in kitchen.
L: minimum level of oven floor.

M. Comfortable downward reach
M: minimum height of storage shelves.

N. Foot height
N: minimum height of toe recesses to kitchen units.

O. Effective forward reach
O: maximum depth of kitchen work surfaces.

P. Forward reach beyond face of chair arm
P: comfortable reach over low-level tables, etc.
P: preferred maximum dimension, sink fascia to sink taps.

Q. Knee projection beyond face of chair arm
Q: minimum dimension sink fascia to waste pipe and wash basin fascia to waste pipe.

R. Toe projection from front to waist
R: preferred minimum depth of tables and knee recesses to permit close approach.

S. Toe projection beyond face of chair arm
S: minimum depth of knee recesses to kitchen sink, preparation centre, wash basin, etc.

T. Toe projection at lower leg level
T: minimum depth of toe recesses to kitchen units.

DESIGNERS CHECKLIST

Designers Checklist of Provisions/Areas for Consideration.

NB. This list is not intended to be comprehensive; it merely acts as a quick reference guide to assist Architects/Surveyors/Designers, on achieving compliance with Part M of the Building Regulations.

You are advised to consider all other areas outside the scope of the Building Regulations to ensure your proposal is compliant with the Disability Discrimination Act 1995 (DDA) and the Disability Discrimination (employment) Regulations1996

ACCESS STATEMENT.

- Access Statement provided YES / NO
- (See separate guidance note on Access Statements – these will be required on all commercial applications).

SECTION 1: ACCESS TO BUILDINGS

SITE ACCESS, ROUTES AND SURFACES.

- Provisions start at edge of the site, car parking provisions, vehicle and pedestrian accesses.
- Level approach, maximum slope of 1:60 and maximum cross fall of 1:40.
- Surfaces to be firm, durable, slip resistant, with maximum undulations 3mm in 1000mm.
- Clearly defined setting down point close to principal entrance of alternative entrance.
- Larger designated parking spaces (4800mm x 2400mm) together with 1200mm access space to end and side.
- Ticket machine location, accessibility and height of controls (min 750mm / max 1200mm).
- Clearly define pedestrian routes, well-lit and signed using International Symbol for Access.
- Pedestrian routes protected from hazards i.e. open windows / door edges and vehicles, Blister paving at vehicle crossing points.
- Minimum path width 1500mm with passing places 1800 x 2000mm in sight of each other (or 1.8 path width throughout).

RAMPS

(If site constraints necessitate an approach of 1 in 20 or steeper a ramped approach must be provided).

- Ramps to be readily apparent or clearly signposted.
- 1500mm width with visually contrasting 100mm edge kerb.
- Level landings to top and bottom min 1200mm and clear of any door swings.
- Intermediate landings min 1500mm and clear of any door swings.
- Passing places / intermediate landings (1800mm x 1800mm) where end of ramp out of sight and where 3 or more consecutive ramp flights.
- Landings to be level – max 1:60 gradient along length and max 1:40 cross fall gradient.
- Gradient between 1:12 and 1:20.
- Maximum ramp length 10m, maximum ramp rise 500mm for max gradient of 1:20.
- Maximum ramp length 5m, maximum ramp rise 333mm for max gradient of 1:15.
- Maximum ramp length 2m, maximum ramp rise 166mm for max gradient of 1:12.
- Surfaces to be durable, slip resistant and ramp slope to visually contrast with landings.
- Clearly signposted steps required as well as ramp where rise exceeds 300mm.
- Alternative access method where total rise is greater than 2m. An external lift is to be provided.

STEPS

- Clearly signposted steps required as well as ramp where rise exceeds 300mm.
- Approved Corduroy tactile warning top and bottom of stair - 800mm wide (layout as per Dia 4 A.D.M)
- Treads surfaces to be durable and slip resistant.
- Level landings to top and bottom, min 1200mm and clear of any door swings.
- 1200mm min surface width between enclosing walls, strings or upstands.
- Consistent rise of between 150 and 170mm – risers to be closed and of approved profile as Dia 6 A.D.M – avoid step nosing over the tread below (if necessary max 25mm). (150mm max rise and min 280mm going for schools).
- Going to be between 280 and 425mm (425mm acts as a rest platform).
- Maximum number of risers, 12 with going 350mm or less or 18 with going 350mm or more
- No single steps
- Nosing and riser to visually contrast with step, 55mm contrast band
- Wider stair flight to be divided down to 1800mm wide 'channels' with additional handrails

HANDRAILS.

- Handrail both sides, which are continuous throughout the flights, ramps and landings, visually contrasting, easy to grip: slip resistant, non-reflective and not cold to touch.
- Handrails to project 300mm beyond top and bottom landings with closed ends.
- Handrails to be between 900mm and 1000mm above surface or steps pitch line / 900mm and 1100mm above surface of landings.
- Handrail profile to be diameter between 40mm and 45mm (where circular) or oval 15mm min radius (preferred solution) min 50mm width (refer dia 7 A.D.M).
- Max 100mm projection into surface width of steps, landings or ramps.
- Clearance of between 60mm and 75mm between handrail and any wall surface.
- Min 50mm clearance between the cranked support and the underside of the handrail.
- Inner face to be N.M.T 50mm beyond the surface width of the ramp or step access.

HAZARDS ON ACCESS ROUTES.

- Avoid hazards on access routes that could come into contact with people both at low and high level.
- Any permanent obstructions or temporary obstructions i.e. open windows / doors that project more than 100mm into the access route below 2100mm above the access level are to have appropriate guarding, incorporating a kerb or other solid barrier for cane detection.

SECTION 2: ACCESS INTO BUILDINGS.

APPROACH.

- Accessible entrances to be clearly signposted and easily recognisable (i.e. by using lighting and visual contrast features). Watch for obstructions such as canopies / support posts etc. Signed using International Symbol for Access.
- Obstructions and hazards outside entrance doors to be avoided – particularly non-building related items i.e. planters / sign boards etc.
- Level landing outside entrance door 1500 x 1500mm clear of door swings – surface finish non-slip and of materials that would not impede wheelchair access.
- Level threshold entrance door – max 15mm / chamfered or rounded edges.
- Weather protection to be provided for non-powered doors.
- Access systems to be suitable for deaf and hard of hearing (CCTV).
- Internal floor surfaces adjacent to threshold must suit wheelchair users / or create trip hazards. i.e. no soft matting. Mat wells must be flush with floor surface.

DOORS

- Powered door solution preferred option – preferably sliding to avoid accidental collision.
- Doors to have maximum opening force at leading edge of 20N and to be held shut.
- Door furniture to be easily operated by a closed fist, visually apparent i.e. contrasting with door surface and not cold to touch.
- Door clear width measured from handle to jamb. Varies according to angle of approach. Straight approach to door – 800mm clear width / right angle approach to door with access route min 1500mm - 800mm clear width / right angle approach to door with access route min 1200mm - 825mm clear width / External doors used by general public – 1000mm clear width.
- Revolving doors not considered acceptable without additional compliant bypass doors.
- Doors and side panels to doors wider than 450mm to have vision panels provided – visibility zone between 500mm and 1500mm and if necessary interrupted between 800mm and 1150mm above floor level e.g. to accommodate an intermediate horizontal rail (refer to dia 9 A.D.M).
- Unobstructed 300mm min space on door pull side between door leading edge and wall (not to powered doors).

POWERED ENTRANCE DOORS.

- Controlled by motion sensors or manual push pads / swipes etc (remember size to suit limited manual dexterity / visual impaired). Controls to be min 750mm / max 1000mm above floor / operable by closed fist / visually contrasting from background / where fitted to door leading edge side – must be min 1400mm from door edge.
- Suitable early opening and timed closing to allow disabled safe entry and exit – safety stops to prevent trapping.
- Outward opening doors – suitable audible and visual warnings to be provided to warn of door opening / shutting. Doors not to project into access circulation routes when open.
- Manual operation available or fail to open position if power fails.

GLASS DOORS / GLAZED SCREENS.

- Glass doors in glass façade to have 150mm high contrast strip at door edges, and door protection if capable of being left open.
- Manifestations include additional lower level 850 to 1000mm and higher level 1400 to 1600mm, repeated on side screens. At least 150mm high if logo / sign or if decorative feature i.e. broken lines min 50mm high.
- (Supersedes Part N manifestation guidance) NB – 2 levels required.
- Manifestations should visually contrast inside and out and in all lighting conditions.
- Zone of visibility lowered to 500mm above ground level.

LOBBIES.

- Thresholds to be level but if unavoidable a maximum of 15mm, chamfered if over 5mm.
- Lobby size related to door size, door swing and footprint of wheelchair and its companion (refer to diagram 10 A.D.M). Generally 1570mm min clear space between door swings in an open position.
- Min width of 1200mm or door width + 300mm which ever is the greater (single doors).
- Min width of 1800mm(double doors).
- Lobby floors to have wheelchair friendly surface (not soft finish), be trip free and to remove water from wheels and shoes to reduce slippy surfaces within building. Mat wells must be flush with floor surface.
- Avoid distracting reflections from glazing.
- Any columns, ducts and similar full height elements projecting into lobby more than 100mm to have visually contrasting guardrail.

SECTION 3: HORIZONTAL AND VERTICAL CIRCULATION.

ENTRANCE HALL AND RECEPTION AREA.

- Reception desk easily identifiable and wheelchair accessible - counter section 1500mm wide, max 760mm high and 700mm knee recess above floor level.
- Clear approach and manoeuvring space in front of desk 1200mm deep by 1800mm wide if there is a min 500mm knee recess to counter, otherwise min 1400mm deep by 2200mm if no knee recess provided.
- Induction loop to reception point.
- Slip resistant floor surface.

INTERNAL DOORS.

- Doors to have maximum opening force at leading edge of 20N.
- Door furniture to be easily operated by a closed fist, visually apparent i.e. contrasting with door surface and not cold to touch.
- Door clear width measured from handle to jamb. Varies according to angle of approach. Straight approach to door – 800mm clear width / right angle approach to door with access route min 1500mm - 800mm clear width / right angle approach to door with access route min 1200mm - 825mm clear width / External doors used by general public – 1000mm clear width.

- Doors and side panels to doors wider than 450mm to have vision panels provided – visibility zone between 500mm and 1500mm and if necessary interrupted between 800mm and 1150mm above floor level e.g. to accommodate an intermediate horizontal rail (refer to dia 9 A.D.M).
- Unobstructed 300mm min space on door pull side between door leading edge and wall (not to powered doors).
- Door frames to contrast surrounding wall surfaces.
- Manifestation at two levels, 850mm to 1000mm and 1400mm to 1600mm.
- Glass doors in glass façade to have 150mm high contrast strip at door edges, and door protection if capable of being left open.
- Manifestations should visually contrast inside and out and in all lighting conditions.
- Fire doors self-closing either fitted with hold open devices or free swing devices and close on activation of the fire alarm (to negate requirement for 20N opening force).

CORRIDORS AND LOBBIES

- Corridor unobstructed widths of 1200mm with 1800mm by 1800mm passing places or 1800 width without passing places.
- Passing places to be at reasonable intervals.
- Projections in to the corridor to have contrasting guardrails.
- Floors to be level – max gradient 1 in 60. Any gradients steeper than 1 in 20 to be designed as ramps. Ramps less steep than 1 in 20 to have max rise 500mm with 1500mm long rest landings.
- No door to open across the corridor (doors should be recessed back from corridor) - except a unisex toilet door where the corridor is 1800mm wide. Some minor utility cupboards can outward open i.e. small store cupboards.
- Slip resistance floor surfaces. Avoid patterns to floor coverings.
- Glazed screens alongside the corridor to have manifestation at two levels – as glazed doors above.
- Ensure wider leaf of asymmetrical double doors is on same side of corridors.
- Internal lobbies to be as external above and in accordance with diagram 10 A.D.M.
- Projections in to the lobby to be protected with contrasting guardrails.

VERTICAL CIRCULATION.

LIFTING DEVICES.

- Passenger lifts preferred option for all buildings, however for existing buildings in exceptional circumstances a platform lift may be considered and in exceptional circumstances, in an existing building giving access to a small area with a unique function, a wheelchair platform stair lift could be considered and argued in the access statement.
- All new developments to have a passenger lift provided serving all storeys.
- An unobstructed manoeuvring space of 1500mm x 1500mm or 900mm straight access route to the lift.
- Landing call buttons located between 900mm and 1100mm – 500mm from any return wall, with raised symbols for tactile reading. Controls to have contrasting finish from background.
- Avoid dark colours to car floor and ensure floor frictional qualities similar or higher than the landing floor.
- A handrail on one wall 900mm above the floor.
- An emergency communication system.

PASSENGER LIFTS.

- Lift car to be designed in accordance with Diagram 11 A.D.M. - 1100mm wide x 1400mm deep and the provision of a mirror to allow wheelchair user to see behind.
- Min 800mm clear width of opening doors – doors to have timing and re-opening activators to allow for people and any assistance dogs to enter or leave car. Doors to contrast surrounding surfaces.
- Car controls between 900mm and 1200mm.
- Audible and visual indication of lift arrival and location in and out the car.
- Avoid use of visually and acoustically reflective wall surfaces.

LIFTING PLATFORMS.

- Vertical travel distance of 2.0m maximum with no enclosure and no floor penetration. More than 2.0m with a lift enclosure.
- Over 3m travel a product certificate issued by a Notified Body is required.
- Continuous pressure controls located between 800mm and 1100mm and at least 400mm from any return walls.
- Landing call buttons located between 900mm and 1100mm – 500mm from any return wall, with raised symbols for tactile reading. Controls to have contrasting finish from background.
- Three platform sizes depending on enclosures and accompanied or not;
- 800mm wide x 1250mm deep minimum – non-enclosed platform and no provision made for wheelchair companion.
- 900mm wide x 1400mm deep minimum – enclosed platform and no provision made for wheelchair companion.
- 1100mm wide x 1400mm deep minimum – 2 doors at 90 degrees relative to each other / enclosed platform and provision made for wheelchair companion.
- Doors either 800mm or 900mm wide (for 1100mm wide x 1400mm deep platform). If possible position doors at different levels to allow forward movement in and out.
- Clear instructions are available for use.
- Audible and visual announcement of platform arrival.
- Avoid use of visually and acoustically reflective wall surfaces.
- Watch use in unsupervised environment.

WHEELCHAIR PLATFORM LIFTS. (Restricted use)

- In a single stairway condition ensure clear width of stair for means of escape when the lift is parked.
- Continuous pressure controls designed to prevent unauthorised use.
- Platform size of 800mm wide and 1250mm deep with access width of 800mm minimum.

INTERNAL STAIRS.

- Design as external stair dimensions.
- 12 risers maximum to a landing, but exceptionally no more than 16 in small premises where plan area is restricted.
- Rise of between 150mm and 170mm and going at least 250mm. (150mm max rise / min 280mm going for schools).
- No need for tactile warnings as external stairs.
- Provide guarding under landings less than 2100mm to prevent visually impaired walking into them.

INTERNAL RAMPS.

- Design as external ramp notes above.
- Where the change in level is more than 300mm – 2 or more clearly signposted steps must be provided in addition to ramp.

- Where the change in level is less than 300mm – a ramp is to be provided instead of a single step.
- All landings to be level – subject to a max 1 in 60 gradient along their length.
- Provide guarding under landings less than 2100mm to prevent visually impaired walking into them.

HANDRAILS TO INTERNAL STEPS, STAIRS AND RAMPS.

- As external handrails.

SECTION 4: FACILITIES IN BUILDINGS OTHER THAN DWELLINGS.

AUDIENCE & SPECTATOR FACILITIES (make reference to good practice guides 4.11 A.D.M for sports facilities).

- The route to wheelchair spaces is accessible.
- Stepped access required fixed handrails (see 1.34 – 1.37 A.D.M).
- Minimum numbers of permanent & removable spaces (see table 3 plus diagram 13 A.D.M).
- Provide a range of views of event.
- Minimum clear space for access to wheelchair spaces / space to be allowed for wheelchair to be 900mm wide by 1400mm deep & floor space should be horizontal.
- Allowance for assistance dog required.
- See diagram 14 or 15 A.D.M for stepped terrace design requirements.

LECTURE/CONFERENCE FACILITIES.

- Access to podium or stage for wheelchair via ramp or lifting platform to be provided.
- Hearing enhancement system to be provided (see 4.36 A.D.M).

REFRESHMENT FACILITIES.

- All users have access to all parts of the facility, including wc's, public telephones and external terraces. Where premises contain self-service and waiter service, all patrons should have access to both.
- ALL different floor levels created by changes in floor areas for atmospheric design – must be accessible.
- Working surfaces or bar/serving counter at max 850mm above floor level.
- Shared areas / tea-making worktops to be max 850mm above floor level with a clear space beneath at least 700mm (see diagram 16 A.D.M). Water supplies to be accessible.
- Threshold between external seating area & internal facility (see 2.7 A.D.M)

SLEEPING ACCOMMODATON – Hotels, Motels & Student Accommodation.

For all Bedrooms:-

- Accessible bedrooms to be no less advantageous than able bodied bedrooms – adequate space to transfer into bed and access all the rooms facilities, including wardrobe facilities.
- Width of doors / door leading edges /handles as described previously (table 2 A.D.M).
- Wardrobe / swing doors to open 180 degrees – handles to be usable by closed fist and contrast the background surface.
- Openable window controls between 800mm and 1000mm above floor level and easy to operate single-handed.
- Visual fire alarm signal to be provided in addition to audible signal.
- Any room numbers to have embossed characters.

For wheelchair – accessible bedrooms:-

- At least 1 wheelchair accessible room provided for every 20 standard rooms, situated on accessible routes leading to all other available building facilities.
- To be located in a choice of locations and have standard of amenity equipment as standard rooms.
- Width of doors (3.10 table 2 A.D.M) / 300mm leading edge clearance / 20 N max opening force
- Wheelchair 1500mm x 1500mm space & transfer space alongside beds (diagram 17 A.D.M)
- Wheelchair accessible sanitary facilities (see 5.15 to 5.21 A.D.M).
- Balcony facility if provided (see table 2 (4.24 (o and p)).
- Emergency assistance alarms including re-set button and signal to central control point.
- Wide-angle door viewers located between 1050mm and 1500 above floor level to entrance door.

SWITCHES, OUTLETS AND CONTROLS.

- Wall mounted sockets, telephone and TV sockets between 400mm and 1000mm above floor level. (Preference to lower end of scale). Sockets 350mm away from room corners.
- Permanently wired appliance switches between 400mm and 1200mm above floor level.
- All switches and controls that require precise hand movement to be 750mm and 1200mm above floor level.
- Push button type controls and easy to read.
- Pull cords for emergency alarm to be red in colour with 50mm bangles at two levels. 1 at 100mm and other between 800mm and 1000mm above floor level.
- Large push pads to general public areas align horizontally with door handles between 900mm and 1100mm above floor level and for ease of location.
- All to include on/off position and front plates to contrast visually with their backgrounds. Generally unless required for safety reasons – switches and controls to be usable single handed – and all switched sockets to indicate that they are on.

AIDS TO COMMUNICATION.

- Clear audible public address system – supplemented by visual information.
- Hearing enhancement in rooms for meetings, lectures, classes, performances, spectator sport or films, and at service or reception counters when situated in noisy areas or behind glazed screens.
- Specialist telephone provision to be provided for hearing impaired.
- Artificial lighting is compatible with other electronic and radio frequency installations.

SECTION 5: SANITARY ACCOMMODATION.

- (Reference to be made to details included in this section of the Approved Document).

GENERAL PROVISION.

- Bath and washbasin taps & door opening furniture capable of being operated using a closed fist e.g. lever action or lever handles.
- Visual contrast as follows: a) door furniture and door surface b) door frame and surrounding wall c) sanitary fittings/grab bars and wall and floor finishes d) wall and floor finishes.
- Light action privacy bolts designed for lack of manual dexterity and self-closers to doors – 20N max force.
- Doors to have a release mechanism capable of being opened outward in an emergency.

- Outward opening doors not to obstruct emergency escape routes.
- Fire alarms to emit a visual and audible signal. An emergency assistance alarm system operable from seated position to be provided. Alarm to sound different than fire alarm.
- Lighting controls as provisions in Section 4.
- Heat emitters screened or to have surfaces below 43 degrees Celsius.
- W.C. pans should accommodate variable height toilet seat risers
- Cistern flushing mechanism positioned on open or transfer side.

PROVISION OF TOILET ACCOMMODATION.

- A wheelchair accessible unisex type where only one toilet is provided in a building. Size enlarged to 2.0 x 2.2m – layout in accordance with Diagram 18 / 19 / 20 A.D.M.
- At least one wheelchair accessible unisex toilet at each location where sanitary facilities are provided.
- In separate sex toilet accommodation at least one ambulant disabled persons w.c. cubicle layout in accordance with Diagram 21 is provided and where there are 4 or more cubicles an enlarged cubicle (1.2m wide) is to be provided.

WHEELCHAIR ACCESSIBLE UNISEX TOILET PROVISION.

- One located near to entrance and/or waiting area in a building.
- Not located in a way that compromises privacy of users.
- Located in similar position on each floor of a multi-storey building with choice of transfer layouts on alternate floors.
- Choice of transfer layouts when more than one unisex toilet is available.
- Where w.c is the only one in a building the width must be increased to 2000mm to accommodate an additional standing w.c.
- Located on accessible routes that are direct and obstruction free.
- 40m maximum travel distance to an accessible toilet. Travel between floors restricted to one floor if a lifting platform is only provided.
- Minimum dimensions as diagram 18, heights and arrangements of fittings as diagrams 19 & 20 A.D.M.
- Doors to outward open – sized as previously described, with horizontal closing bar to rear.
- Heat emitters not to restrict wheelchair manoeuvring space or space beside w.c.

TOILETS IN SEPARATE SEX WASHROOMS.

- Ambulant disabled people should be able to use a w.c compartment within any separate sex toilet washroom.
- 450mm diameter manoeuvring space is provided in cubicle between door swing and edge of pan.
- Minimum dimensions of compartments for ambulant disabled people as diagram 21 A.D.M.
- Compartment doors for ambulant disabled people preferably open outward.
- One low level washbasin and urinal with vertical grab bars.

WHEELCHAIR ACCESSIBLE CHANGING/SHOWER FACILITIES.

For changing and shower facilities:-

- A choice of left and right hand transfers is provided, when more than one individual changing / shower compartment is provided.
- Wall mounted drop-down support rails and tip up seats.
- Sub-divisions in communal shower and changing facilities.
- Individual self-contained shower and changing facilities in sports facilities in addition to communal separate sex facilities.
- Limb storage facilities for amputees.

For changing facilities:-

- Arrangements of equipment and controls to comply with diagram 22 A.D.M – min 2000mm by 2200mm size.
- Level slip resistant floor when in association with showers.
- 1500mm manoeuvring space in front of lockers.
- NOTE – For changing facilities not associated with showers, for example shop changing cubicles the dimensions and fittings as per a self contained changing cubicle need to be provided. Min clear area 1500mm x 1500mm.

For shower facilities:-

- Shower facilities as diagram 23 A.D.M.
- Minimum one accessible shower for staff in commercial developments where showers provided.
- Shower curtain operable from shower seat.
- A toiletries shelf within reach of shower seat or wheelchair.
- Level slip resistant floor when in association with showers.
- Shower terminal fittings to comply with guidance note G 18.5 and have logical and clear markings.
- Shower controls between 750-1000mm above floor level.

For shower facilities incorporating a W.C:-

- Arrangement of fittings comply with diagram 24 AD.M.
- Left and right hand transfer layouts available, when more than one shower area is provided.
- Level slip resistant floor when in association with showers.

WHEELCHAIR ACCESSIBLE BATHROOM PROVISIONS.

- Arrangement of fittings as diagrams 25 & 26 A.D.M.
- Left and right hand transfer layouts.
- Slip resistant floor.
- 400mm deep bath transfer seat.
- Outward opening doors with horizontal closing bar

LEGISLATION AND BIBLIOGRAPHY

LEGISLATION

The following are the most significant Acts of Parliament which affect disabled people.

Building Act 1984

Building Regulations 2000

Chronically Sick and Disabled Persons Act 1970

Cinematograph Acts 1909 and 1952

Companies (Employment of Disabled Persons) Regulations 1980

Disabled Persons Act 1981

Disabled Persons Employment Act 1944 (amended 1958)

Disability Discrimination Act 1995

Education Act 1944

Education Act 1980

Fire Precautions Act 1971

Fire Precautions (Workplace) Regulations 1997

Health and Safety at Work, etc Act 1974

Highways Act 1980

Housing Act 1985

Licensing Acts 1961 and 1964

Theatres Acts 1843 and 1968

Town and Country Planning Act 1990

BIBLIOGRAPHY

The Building Regulations 2000 as amended

The Building Regulations (Amendment) Regulations 1998

Approved Document B	Fire Safety
Approved Document K	Protection from falling, collision and impact
Approved Document M	Access to and Use of Buildings
Approved Document N	Glazing Materials and Protection

BRITISH STANDARDS

BS 4787	Internal and External Wood Doorsets, Door Leaves and Frames	B.S.I.
BS 5395	Stairs, Ladders and Walkways	B.S.I.
BS 5588	Part 8: Code of Practice for Means of Escape for Disabled People	B.S.I.
BS 5588	Part 12: Fire precautions in the design, construction and use of buildings. Managing fire safely	
BS 5619	Design of Housing for the Convenience of Disabled People	B.S.I.
BS 5655	Lifts and Service Lifts	B.S.I.
BS 5776	Specification for Powered Stairlifts	B.S.I.
BS 6180	Code of Practice for Protective Barriers in and About Buildings	B.S.I.
BS 8300	Design of Buildings and the Approaches to meet the needs of Disabled People	B.S.I.

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Designing for the Disabled – Selwyn Goldsmith

Access for Disabled Persons to Educational Buildings. Design Note 18. – Secretary of State for Education and Science

New Metric Handbook – Architectural Press

Access for Disabled People, Guidance Note – Sport England

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British Council of Disabled People
Tel: 01332 295551

Bury MBC
Building Control
Craig House, 5 Bank Street
Bury BL9 0DN
Tel: 0161 253 5289
www.bury.gov.uk

Centre for Accessible Environments
Tel/textphone: 0207 357 8182
www.cae.org.uk

Disability Rights Commission
Tel: 08457 622633
www.drc_gb.org.uk

Disability Unit
Department for Work and Pensions
Level 6, Adelphi Building, John Adams Street
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www.disability.gov.uk

Manchester City Council
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Tel: 0161 234 4320
www.manchester.gov.uk

The National Federation of Shopmobility UK
Tel: 08456 442446
www.justmobility.co.uk/shop

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www.oldham.gov.uk

Rochdale MBC
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www.rochdale.gov.uk

Royal Association of Disabililty and Rehabilitation (RADAR)
Tel: 020 7250 3222
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Royal National Institute of the Blind
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