

Introduction

This Technical Booklet has been prepared by the Department of Finance and Personnel and provides for certain methods and standards of building which, if followed, will satisfy the requirements of the Building Regulations (Northern Ireland) 2000 ("the Building Regulations").

There is no obligation to follow the methods or comply with the standards set out in this Technical Booklet.

If you prefer you may adopt another way of meeting the requirements of the Building Regulations but you will have to demonstrate that you have satisfied those requirements by other means.

Other regulations

This Technical Booklet relates only to the requirements of regulations R2, R3, and R4. The work will also have to comply with all other relevant Building Regulations.

British Standards and European Technical Specifications

In this introduction and throughout this Technical Booklet any reference to a British Standard shall be construed as a reference to –

- (a)** a British Standard or British Standard Code of Practice;
- (b)** a harmonised standard or other relevant standard of a national standards body of any Member State of the European Economic Area;
- (c)** an international standard recognised for use in any Member State of the European Economic Area;
- (d)** any appropriate, traditional procedure of manufacture of a Member State of the European Economic Area which has a technical description sufficiently detailed to permit an assessment of the goods or materials for the use specified; or
- (e)** a European Technical Approval issued in accordance with the Construction Products Directive,

provided that the proposed standard, code of practice, specification, technical description or European Technical Approval provides, in use, equivalent levels of safety, suitability and fitness for purpose as that provided by the British Standard.

Products conforming with a European Council Directive

Any product designed and manufactured to comply with the requirements of a European Council Directive does not have to comply with any other standard or part of a standard, whether British, International or other, which relates to the same characteristic or specific purpose as the EC Directive.

CE marked construction products

Any construction product (within the meaning of the Construction Products Directive) which bears a CE marking shall be treated as if it satisfied the requirements of any appropriate British Board of Agrément Certificate, British Standard or British Standard Code of Practice relating to such a product, where the CE marking relates to the same characteristic or specific purpose as the Certificate, Standard or Code of Practice.

Testing of materials and construction

Where for the purposes of this Technical Booklet testing is carried out it shall be carried out by an appropriate organisation offering suitable and satisfactory evidence of technical and professional competence and independence. This condition shall be satisfied where the testing organisation is accredited in a Member State of the European Economic Area in accordance with the relevant parts of the EN 45000 series of standards for the tests carried out.

Materials and workmanship

Any work to which a requirement of the Building Regulations applies must, in accordance with Part B of the Building Regulations, be carried out with suitable materials and in a workmanlike manner. The requirements of Part B can be complied with by following an appropriate British Standard or it may be demonstrated that the requirements have been complied with by other suitable means, such as an acceptable British Board of Agrément Certificate, Quality Assurance Scheme, Independent Certification Scheme or Accredited Laboratory Test Certificate.

Diagrams

The diagrams in this Technical Booklet supplement the text. They do not show all the details of construction and are not intended to illustrate compliance with any other requirement of the Building Regulations. They are not necessarily to scale and should not be used as working details.

References

Any reference in this Technical Booklet to a publication shall, unless otherwise stated, be construed as a reference to the edition quoted, together with any amendments, supplements or addenda thereto current at 22 November 2000.

Contents

	Page
Foreword	3
Section 1 General	8
Buildings other than dwellings	
Section 2 Means of access to and into a building	9
Section 3 Access within a building	14
Section 4 Use of a building	18
Section 5 Sanitary accommodation	20
Section 6 Audience or spectator seating	22
Dwellings	
Section 7 Means of access to and into a dwelling	23
Section 8 Circulation within a dwelling	25
Section 9 Common stairs and passenger lifts in a block of dwellings	26
Section 10 Sanitary convenience in a dwelling	28
Section 11 Heights of switches, socket outlets etc. in a dwelling	29
Appendix Publications referred to	30

Foreword

Buildings other than dwellings

0.1 The provisions for access and facilities are for the benefit of disabled people who are visitors to the building or who work in it.

Where Part R applies, reasonable provision should be made –

(a) so that disabled people can reach the principal entrance to the building and other entrances described in this Technical Booklet, from the boundary of the land belonging to the building and from car parking within this boundary;

(b) so that elements of the building do not constitute a hazard for disabled people with an impairment of sight;

(c) for access for disabled people into and within any storey of the building and to any facilities provided to comply with Part R;

(d) so that disabled people can use the building's facilities;

(e) for sanitary accommodation for disabled people;

(f) for suitable accommodation for disabled people in audience or spectator seating; and

(g) for aids to communication in auditoria, conference rooms and ticket offices for people with an impairment of hearing.

0.2 An extension which is independently approached and entered from the boundary should be treated in the same manner as a new building. Where access to an extension is achieved only through the existing building Part R applies to the extension of a storey if Part R applied to the existing storey when it was erected. Part R also applies to a ground storey extension if –

(a) there is fortuitous access for disabled people to and within the existing ground storey;

(b) the extension has a separate entrance; or

(c) it is both greater than 200m² and more than 10% of the existing ground storey area.

Part R is limited to matters of access to, into, within, and uses of a building. It does not extend to means of escape for disabled people in the event of fire, for which reference should be made to Part E (Fire safety).

Part H (Stairs, ramps, guarding and protection from impact) contains provisions for the design of stairs and ramps which are part of a building. Part R contains more specific provisions for stairs and ramps that need to be suitable for use by disabled people. Where such a stair or ramp is part of a building it must satisfy the requirements of both Parts.

Section 2 - Means of access to and into a building

0.3 The aim of this Section is to provide a suitable means of access for disabled people to the building from the point of entrance at the boundary and from car parking which is provided within the boundary. Where there is a long entrance road within the boundary it may be reasonable to provide access from the car parking only.

Level approach - A level approach is preferred as wheelchair users and ambulant disabled people have difficulty in negotiating changes of level and people with impaired sight may be unaware of abrupt changes in level.

Ramped approach – Steep gradients create difficulties for some wheelchair users who lack the strength to propel themselves up a slope or have difficulty in slowing down or stopping when descending. Wheelchair users need adequate space to stop on landings, to open and to pass through doors without the need to reverse into circulation routes or to run the risk of rolling back down slopes. The risk of wheelchair users catching their feet beneath or between balustrade rails should be minimised by providing kerbs or solid balustrades on open sides of ramped approaches. Some ambulant disabled people have difficulty with ramps and therefore it is desirable to provide a ramped approach with complementary steps.

Complementary steps – People with impaired sight are at risk of tripping or losing their balance when meeting sudden changes of level. The danger is at its greatest when approaching the head of a flight of steps and can be reduced by the use of a suitable tactile surface. People who wear callipers or who have stiffness in hip or knee joints are particularly at risk of tripping by catching their feet beneath nosings or treads. People with physical weakness on one side and people with sight impairments need treads which allow both feet to be placed squarely onto them.

Handrails – People who have physical difficulty in negotiating a change of level need grippable and well supported handrails on both sides of ramps and steps. The handrail should extend beyond the top and bottom steps.

Hazards on access routes – Features of the building which occasionally obstruct a route adjacent to the building may be a hazard to people with sight impairments, particularly if the object is partially transparent and therefore indistinct.

Entrance doors – Sufficient width should be available for wheelchair manoeuvre at entrance doors. A space provided alongside the leading edge of a door reduces the risk of a wheelchair user being prevented from reaching the door handle as a result of the wheelchair footrest colliding with the return wall. People with mobility difficulties may not be able to react quickly to avoid collisions and where feasible, they should be able to see people approaching the other side of entrances and should themselves be seen.

Small revolving doors are not suitable for use by disabled people. Timing of entry and exit creates problems for people with sight impairments and people with ambulatory problems. In addition, there may be insufficient space within the confines of the door to accommodate a wheelchair or too little time for manoeuvre. Some larger types of revolving doors which accommodate several people, which revolve very slowly and which have mechanisms to stop them when they feel resistance, may be suitable as entrance doors in certain circumstances.

Entrance lobbies – A wheelchair user should be able to move clear of one door before using the next one and it is preferable for the doors to open in the same direction. There should also be space for someone assisting the wheelchair user and for someone passing in the opposite direction.

Section 3 – Access within a building

0.4 The aim of this Section is to facilitate the movement of disabled people within buildings. Much has to do with the provision of sufficient space for wheelchair manoeuvre, convenient ways of travelling from one storey to another and the inclusion of features which will help those with impaired hearing or sight to find their way safely and conveniently. Whilst the provisions are not focused entirely on the needs of wheelchair users the more generous space criteria often relate to the space required to manoeuvre a wheelchair.

Horizontal circulation within a building – In locations required to be accessible to wheelchair users, doors, corridors, passageways and internal lobbies need to be wide enough to allow for wheelchair manoeuvre and for other people to pass. Internal doors should have space at the leading edge and visibility panels for the same reasons as entrance doors. Internal lobbies are less likely to be used by several people at the same time and less generous space standards may be adopted but a wheelchair user should be able to move clear of one door before using the next one. The provision of a ramp to effect a change in level within a storey may have serious planning implications and as an alternative a platform lift may be provided. A stair for use by ambulant people should always be provided adjacent to the platform lift.

Vertical circulation within a building – The most suitable means of access for disabled people when passing from one storey to another is a passenger lift. However given the added cost and intrusion into usable space it is not reasonable to require a lift to be provided in every instance.

Where a lift is not required a stair designed to suit the needs of ambulant disabled people should be provided.

In any event at least one stair in every building should be suitable for use by people with impaired sight.

Internal stair – An internal stair should be similar to a stepped approach. For internal stairs it is not considered reasonable to require tactile warnings at the onset of changes of level. The nosings of each stair should, however, be distinguishable for the benefit of people with impaired sight.

Section 4 – Use of a building

0.5 It is important that disabled people are able to reach and use the facilities provided for them in buildings.

Therefore, facilities such as doctors' and dentists' consulting rooms or other health facilities should be located in a storey to which wheelchair users have access.

Restaurants and bars – Bars and self-service counters should be accessible with suitable access from them to seating areas.

Where premises contain both self-service and waiter service, disabled people should have access to both.

Hotel and motel bedrooms – Disabled people who use a wheelchair need a bedroom which is accessible and is sufficiently spacious and arranged to allow manoeuvring of a wheelchair within it and into an en suite bathroom, if provided.

Shower facilities – The provision of a level deck shower with manoeuvring space to enable the transfer from a wheelchair to the seat, and the position of taps, shower head and grab rails are all critical aspects in relation to shower facilities.

Changing facilities – Provision of manoeuvring space for a wheelchair, for transfer onto the seat, and of mirrors and clothes hooks mounted at suitable heights, are all critical aspects in relation to changing facilities.

Aids to communication – In order to derive the full benefit of attending a public performance or playing a proper part in discussions, disabled people with impaired hearing need to receive a signal some 20dB above that received by people with “normal” hearing. The 2 systems most commonly used to improve the signal are loop induction and infra-red systems.

Section 5 – Sanitary accommodation

0.6 Sanitary accommodation should be no less available for disabled people than for non-disabled. This Section provides solutions which satisfy that principle, bearing in mind the use and size of the building.

Sanitary accommodation for disabled staff– Disabled staff may be less likely to need assistance than a disabled visitor or customer and it is more likely that assistance will be provided by a person of the same sex therefore an integral facility may be adequate; whereas a disabled visitor or customer is more likely to be accompanied by a companion of the opposite sex and a unisex facility would be more appropriate.

Sanitary accommodation for wheelchair users – Whether WC compartments are designed on a “unisex” or “integral” basis, they should be similar in layout and content, and should satisfy the need –

(a) to achieve necessary wheelchair manoeuvre;

(b) to allow for frontal, lateral, diagonal and backward transfer onto the WC and to have facilities for hand washing and hand drying

within reach from the WC, prior to transfer back onto the wheelchair; and

(c) to have space to allow a helper to assist in the transfer.

Where sanitary accommodation is to be provided in upper or lower storeys without lift access, the aim should be to make reasonable provision for people who have a mobility impairment or need some support to stand up or sit down.

Section 6 – Audience or spectator seating

0.7 The aim of this Section is to make reasonable provision for wheelchair users in theatres, cinemas, concert halls, sports stadia and the like.

Wheelchair spaces – Wheelchair users need to be provided with a space into which they can manoeuvre easily and which allows them a clear view of the event. In addition they should have the choice of being able to sit next to disabled or non-disabled companions.

Dwellings

0.8 The provisions for access and for facilities within dwellings are for the benefit of disabled people who may visit the dwelling.

Where Part R applies, reasonable provision should be made –

(a) so that disabled people can reach the principal entrance to the dwelling, or to a common entrance to a block of dwellings, from the boundary of the land belonging to the dwelling or from car parking within this boundary;

(b) for access for disabled people into and within the entrance storey or the principal storey of the dwelling and to access and use any facilities provided to comply with Part R; and

(c) for sanitary conveniences for disabled people.

Part R does not extend to means of escape for disabled people in the event of fire, for which reference should be made to Part E (Fire safety).

Part H (Stairs, ramps, guarding and protection from impact) contains provisions for the design of stairs and ramps which are part of a building. Part R contains more specific provisions for stairs and ramps that need to be

suitable for use by disabled people. Where such a stair or ramp is part of a dwelling or a block of dwellings it must satisfy the requirements of both Parts.

Section 7 – Means of access to and into a dwelling

0.9 The aim is to make reasonable provision for a disabled person to approach and gain access into a dwelling from the boundary of the plot or the point of alighting from a vehicle on a driveway within the plot. In most circumstances a level or ramped approach should be provided to the entrance to a dwelling or to a common entrance to a block of dwellings e.g. flats.

External approach – The provision of an external approach which can be used by disabled people will often be a matter of practicability. Variations in topography, available plot area, and the distance of the dwelling from the point of access may influence the type of approach that can be provided.

On most plots wheelchair users should be able to have access to the principal entrance. Exceptionally, on steeply sloping plots access may be to a suitable alternative entrance by a level or ramped approach. Where there is no alternative but to provide a stepped approach, the steps should be designed to suit the needs of ambulant disabled people. The stepped approach should have as few steps as possible as someone using a wheelchair may need assistance to negotiate the steps.

The presence of a driveway may provide a better opportunity for creating a level or ramped approach, particularly if it also provides the sole means of approach for visitors who are disabled. The driveway could be designed as the approach to the dwelling or to a common entrance to a block of dwellings.

In such cases the approach should exclude the space for any parked vehicle but a vehicle door may open across it.

The surface of an approach available to a wheelchair user should be firm enough to support the weight of the user and his or her wheelchair and smooth enough to permit easy manoeuvre. It should also take account of the needs of stick and crutch users. Loose laid materials, such as gravel or shingle, are not suitable for an approach.

Thresholds – A level threshold should be provided at the entrance, even where the approach to the entrance is stepped. However,

if circumstances mean a step at the threshold is unavoidable, its rise should be as small as possible.

Section 8 – Circulation within a dwelling

0.10 The aim is to facilitate access into habitable rooms and to a sanitary convenience in the entrance storey or the principal storey.

Circulation routes and internal doors – Circulation routes should be sufficiently wide to allow convenient circulation by disabled people. Consideration should be given to the effects of local obstructions such as radiators and other fixtures.

Internal doors need to be of a suitable width to facilitate wheelchair manoeuvre and wider doors are needed where a wheelchair cannot approach them head-on.

Vertical circulation – Where the circulation within the entrance storey or the access to a principal storey includes a stair, it should be suitable for use by ambulant disabled people.

Section 9 – Common stairs and passenger lifts in a block of dwellings

0.11 In a block of dwellings e.g. flats, the aim should be to make reasonable provision for disabled people to visit occupants who live on any storey. The most suitable means of access for disabled people from one storey to another is a passenger lift. However, a lift may not always be provided.

Common stairs – A stair in a common area should be designed to suit the needs of ambulant disabled people. However, where a passenger lift is provided to give access between storeys, the common stair need only be suitable for people with impaired sight.

Lifts – Where a lift is provided, it should be suitable for an unaccompanied wheelchair user and people with sensory impairments. Measures should also be adopted to give disabled people sufficient time to enter and leave the lift without the risk of contact with the closing doors.

Section 10 – Sanitary convenience in a dwelling

0.12 The aim is to provide a sanitary convenience which a disabled visitor to the dwelling may use. The sanitary convenience will normally be located in the entrance storey. Where the entrance storey contains no habitable rooms, a sanitary convenience should be provided in the principal storey.

It will not always be practicable for a wheelchair to be fully accommodated within the sanitary accommodation. In such circumstances a wheelchair user may need assistance.

Section 11 – Heights of switches, socket outlets etc. in a dwelling

0.13 The aim is to assist those people whose reach is limited, to use a dwelling more easily, by locating switches, sockets etc. at suitable heights.

Section 1 – General

1.1 This Section defines terms relating to access and facilities for disabled people in and about buildings.

Definitions

1.2 In this Technical Booklet the following definitions apply –

Access – approach or entry.

Accessible – that access is provided for disabled people.

Boundary – the boundary of the land (excluding any abutting street, canal or river) on which the building is erected.

Isolator – a switch used to cut off the supply of electricity to an electrical appliance for maintenance purposes.

Plot – the area within the boundary of the land on which the building is erected.

Plot gradient – means the gradient measured along the route of travel between the point of entry and the floor level at –

(a) the principal or an alternative entrance to a dwelling; or

(b) the common entrance or an alternative entrance to a block of dwellings.

Point of entry – the point at which a person visiting the building either –

(a) normally enters the plot; or

(b) alights from a vehicle within the plot.

Principal entrance (in buildings other than dwellings or a block of dwellings) – the main entrance or entrances for the users of the building.

Principal entrance storey – the storey or storeys where the principal entrance or entrances are located. If an alternative accessible entrance is to be provided by virtue of paragraph 2.8 the storey containing that entrance is a principal entrance storey.

Unisex sanitary accommodation – sanitary accommodation containing not more than one WC, which is approached separately from any other sanitary accommodation and which can be used by people of either sex.

Wheelchair space – a level space of at least 900 mm width and 1400 mm depth accessible to a wheelchair user and providing a clear view of the event.

Section 2 – Means of access to and into a building

2.1 This Section deals firstly with the external approach to a building other than a dwelling or a block of dwellings and then with the building entrance.

General rules

Access to the building

2.2 Disabled people shall have suitable means of access to a building from the point of entrance at the boundary and from car parking which is provided within the boundary by –

(a) a level approach complying with the provisions of paragraph 2.3;

(b) a ramped approach complying with the provisions of paragraph 2.4; or

(c) a ramped approach with complementary steps complying with the provisions of paragraph 2.5.

Any combination of (a), (b) or (c) may be used within the one approach.

Some ambulant disabled people have difficulty with ramps and where practicable a ramped approach with complementary steps shall be provided.

These approaches shall be guarded where there is a risk of falling. In such circumstances guarding shall be provided complying with the provisions in Technical Booklet H: Section 4 (where category 3(a) or (f) in Table 4.1 shall be used).

Level approach

2.3 A level approach shall have –

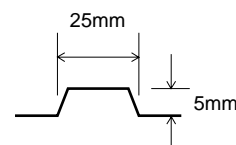
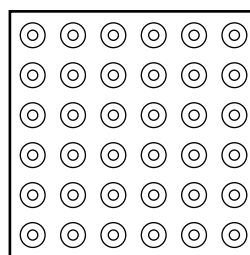
(a) an unobstructed width of not less than 1200 mm except at handrail level or at a local obstruction where the width may be reduced to 1000 mm; and

(b) a gradient of not more than 1 in 20.

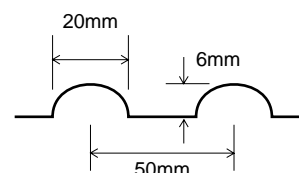
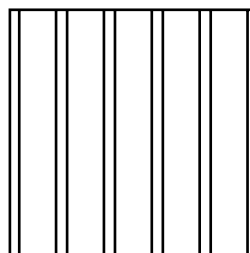
Where a level approach crosses a carriageway a dropped kerb and tactile warning paving of Type (a) as shown in Diagram 2.1 shall be provided.

Diagram 2.1 Tactile paving slabs

see paras 2.3 and 2.5



(a) modified blister paving adjacent to carriageway crossing



Section

300/400/500mm square

(b) corduroy paving adjacent to steps

Plan

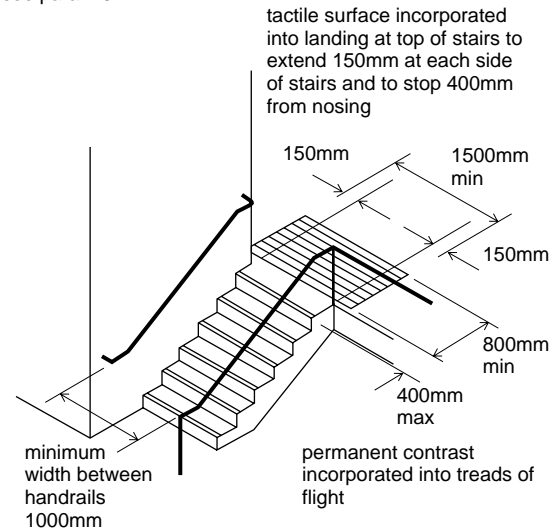
Ramped approach

2.4 A ramped approach shall consist of a ramp or ramps and landings and shall have –

- (a) a surface which reduces the risk of slipping;
- (b) an unobstructed width of not less than 1200 mm, except at handrail level where the width may be reduced to 1000 mm;
- (c) a ramp not exceeding –
 - (i) 10 m in length where the slope of the ramp does not exceed 1 in 15; or
 - (ii) 5 m in length where the slope of the ramp does not exceed 1 in 12;
- (d) landings with an unobstructed length of not less than 1200 mm at the top and bottom of each ramp. However where a landing is between two ramps it shall have a length of not less than 1500 mm. In all cases the unobstructed length shall be clear of any door swing;
- (e) a raised kerb of not less than 100 mm high on any open side (except where it would obstruct normal use); and

Diagram 2.3 Tactile and visual warnings

see para 2.5



- (f) a suitable continuous handrail on each side if the horizontal length of the ramp is greater than 2000 mm.

See Diagram 2.2.

Diagram 2.2 Ramped approach with complementary steps

see paras 2.4 and 2.5

A length of ramps.

maximum length of ramp 10m.

where the length exceeds 5m slope shall not exceed 1 in 15.

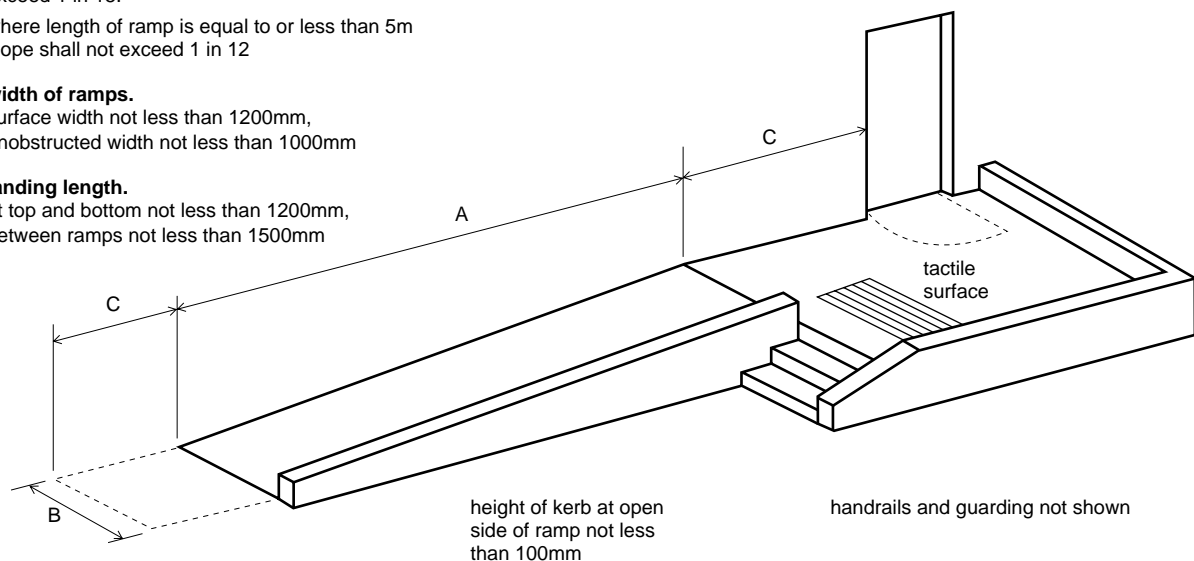
where length of ramp is equal to or less than 5m slope shall not exceed 1 in 12

B width of ramps.

surface width not less than 1200mm,
unobstructed width not less than 1000mm

C landing length.

at top and bottom not less than 1200mm,
between ramps not less than 1500mm



Ramped approach with complementary steps

2.5 A ramped approach with complementary steps (see Diagram 2.2) shall consist of a ramped approach which meets the provisions of paragraph 2.4.

The complementary steps and associated landings shall have –

(a) a tactile surface of Type (b) in Diagram 2.1 on the top landing to give advance warning of the change in level (see Diagrams 2.1, 2.2 and 2.3);

(b) step nosings which are distinguishable through permanent contrasting brightness;

(c) an unobstructed width of not less than 1000 mm;

(d) a rise of not more than 1200 mm in each flight of steps;

(e) top and bottom landings (and where necessary intermediate landings) with an unobstructed length of not less than 1200 mm clear of any door swing onto them;

(f) steps with a uniform rise of not less than 75 mm and not more than 150 mm;

(g) steps with a uniform going of not less than 280 mm (which in the case of tapered treads shall be measured at a point 270 mm from the narrow end);

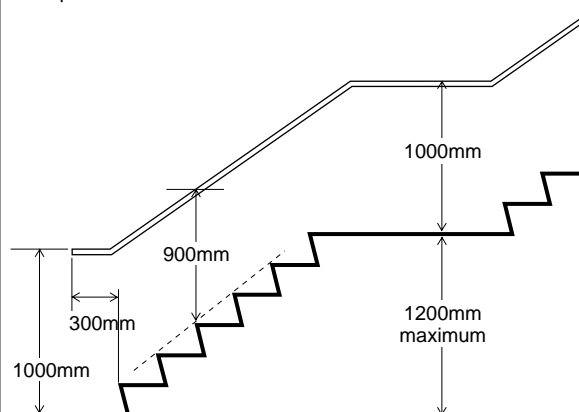
(h) rises that are not open and have a suitable profile such that the risk of tripping is reduced (see Diagram 2.4b); and

(i) a suitable continuous handrail on each side complying with the provisions of paragraph 2.6 where there are 2 or more steps.

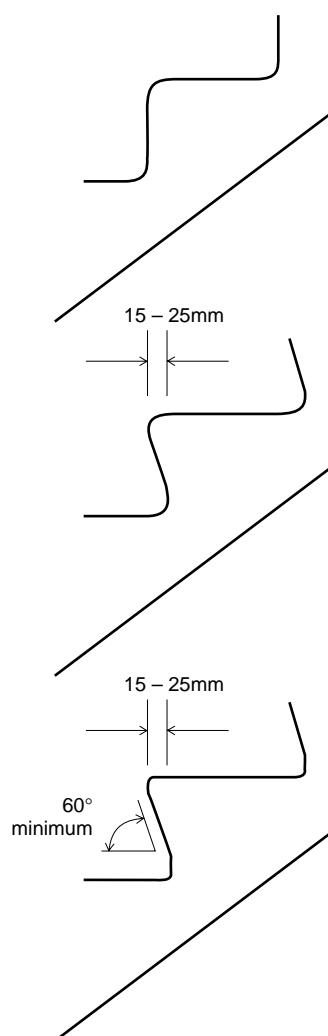
See Diagrams 2.2 and 2.4.

Diagram 2.4 Stepped approach

see para 2.5



(a) external steps and handrails



(b) examples of suitable tread nosing profiles

maximum rise 150mm
minimum going 280mm

Handrails

2.6 A handrail shall –

(a) be at a height measured vertically of –

- (i) 900 mm above the pitch line of a flight of steps; or
- (ii) 1000 mm above the surface of a ramp or the level of a landing;

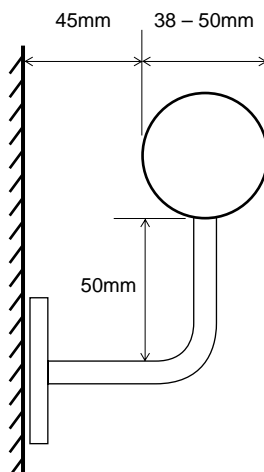
(b) extend not less than 300 mm horizontally beyond the top and bottom nosings of a flight of steps or the top and bottom of a ramp except at an intermediate landing not greater than 1500 mm in length where it shall extend the full length of the landing (see Diagram 2.4(a));

(c) terminate in a closed end which does not project into a route of travel; and

(d) be well supported and have a profile and projection which allows a firm grip. A suitable circular handrail is shown in Diagram 2.5.

Diagram 2.5 Circular handrail

see paras 2.6 and 3.8

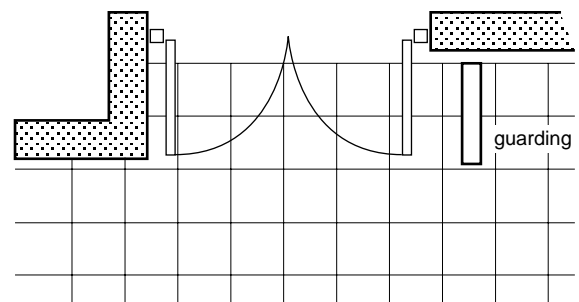


Hazards on access routes

2.7 To reduce hazards on access routes for people with sight impairments, windows and doors which open outwards (other than those for emergency use only) shall not cause an obstruction on a path which runs along the face of a building. Acceptable means of reducing these hazards are shown in Diagram 2.6.

Diagram 2.6 External hazards

see para 2.7

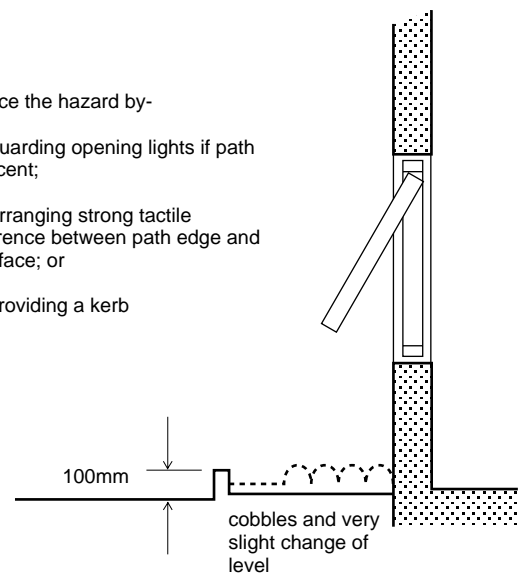


Plan

reduce the hazard by-

- (a) guarding opening lights if path adjacent;
- (b) arranging strong tactile difference between path edge and wall face; or
- (c) providing a kerb

Section



Access into the building

2.8 The principal entrance for visitors or customers and an entrance which is specifically for members of staff shall be accessible and suitable for disabled people. However –

(a) where the space outside the principal or staff entrance is severely restricted or the slope of the ground makes access for disabled people impracticable; or

(b) where car parking is provided adjacent to and serving a building and access for disabled people to the principal or staff entrance is impracticable,

an alternative entrance intended for general use which is accessible and suitable for disabled people is acceptable provided there is internal access for disabled people from that entrance to the principal and staff entrances.

Entrance doors

2.9 To be suitable for use by disabled people an entrance door shall –

(a) contain a leaf which provides a clear opening width of not less than 800 mm;

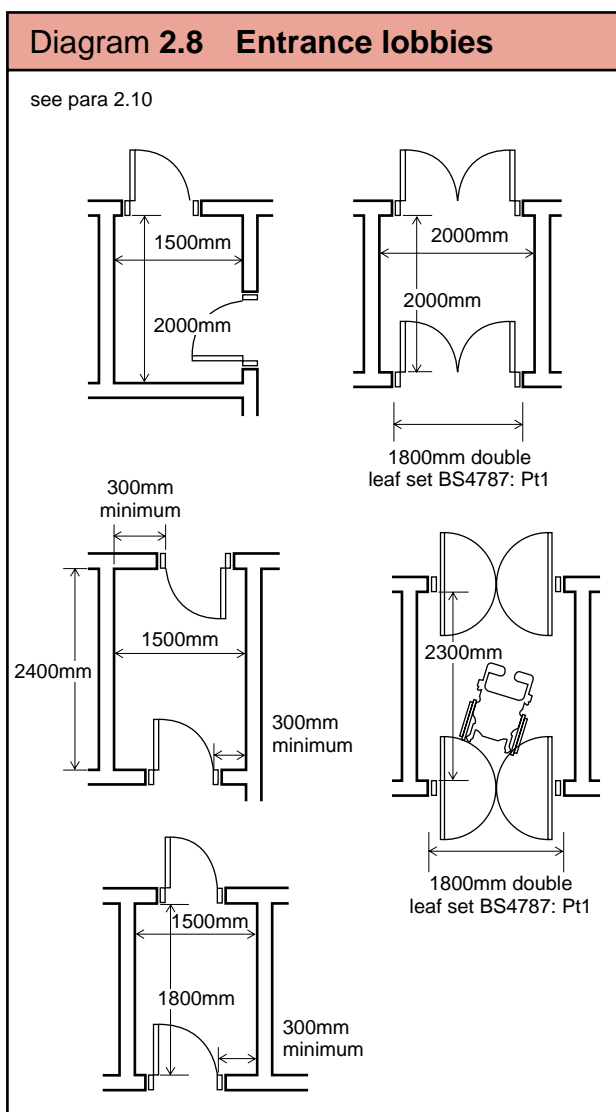
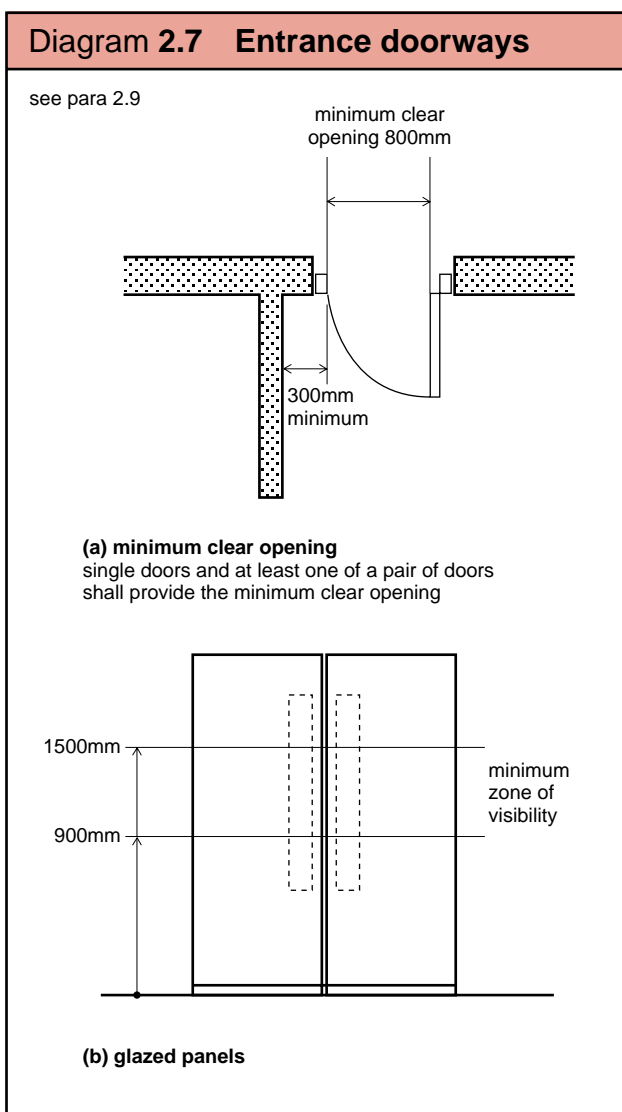
(b) have a glazed panel or panels giving a zone of visibility from a height of not more than 900 mm to not less than 1500 mm from the finished floor level where the opening action of the door could constitute a hazard; and

(c) have an unobstructed space of not less than 300 mm at the leading edge of the door or be opened by a suitable automatic control.

See Diagram 2.7.

Entrance lobbies

2.10 An entrance lobby shall have the minimum dimensions shown in Diagram 2.8.



Section 3 – Access within a building

3.1 This Section deals firstly with access within a storey (horizontal circulation) and then with access between storeys (vertical circulation) in a building other than a dwelling or a block of dwellings.

The use includes access to –

- (a) all parts of a storey other than those excluded by Regulation R1 (2); and
- (b) all storeys (subject to the provisions in paragraph 3.7).

Horizontal circulation within a building

3.2 Horizontal circulation within a storey shall be level, or by means of a ramp or ramps complying with the provisions of paragraph 2.4.

However, where it is impracticable to provide a ramp a platform lift complying with BS 6440: 1999 may be used together with a stair complying with the provisions of paragraph 3.8.

Internal doors

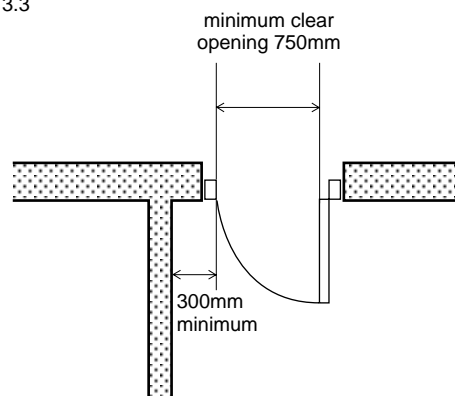
3.3 An internal door shall –

- (a) contain a leaf which provides a clear opening width of not less than 750 mm;
- (b) have an unobstructed space of not less than 300 mm at the leading edge of the door, or be opened by a suitable automatic control; and
- (c) where it is across a corridor or passageway, have a glazed panel or panels giving a zone of visibility from a height of not more than 900 mm to not less than 1500 mm from the finished floor level where the opening of the door could constitute a hazard.

See Diagram 3.1.

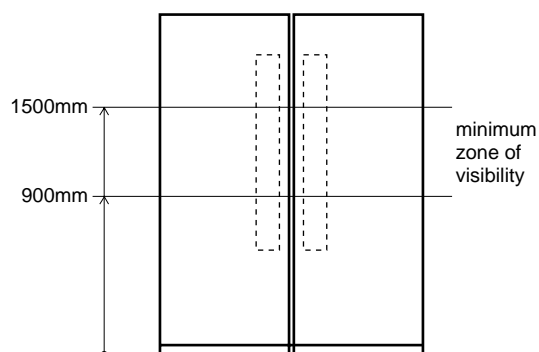
Diagram 3.1 Internal doorways

see para 3.3



(a) minimum clear opening

single doors and at least one of a pair of doors shall provide the minimum clear opening



(b) glazed panels

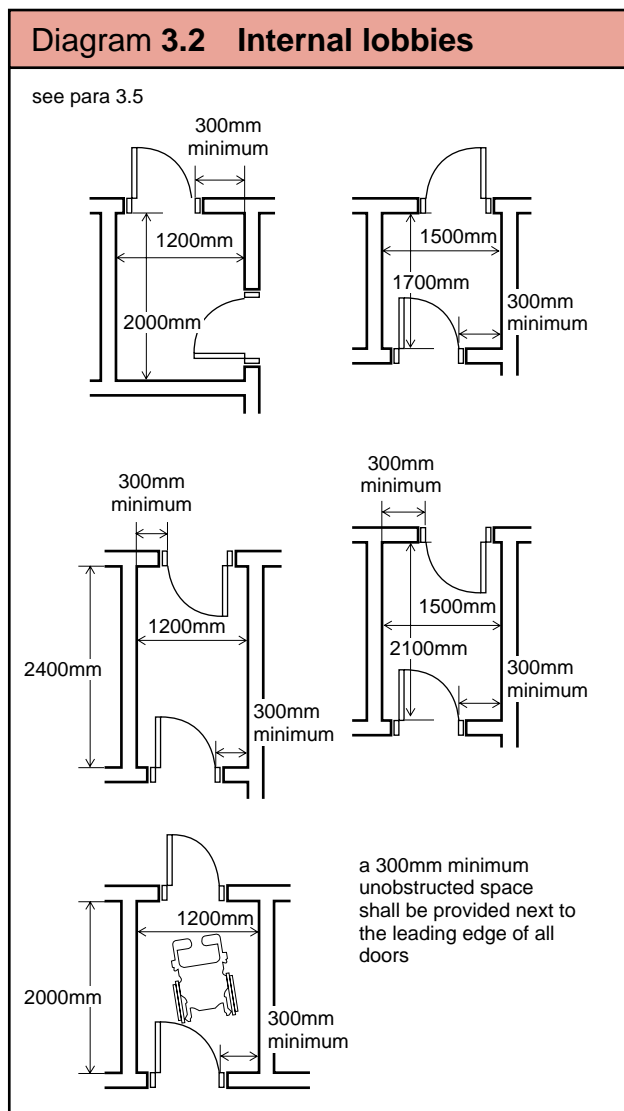
doors across circulation routes shall have visibility glazing

Corridors and passageways

3.4 Corridors or passageways shall have an unobstructed width of 1200 mm except those to which wheelchair users will not have access, where the unobstructed width shall be not less than 1000 mm.

Internal lobbies

3.5 An internal lobby shall have the minimum dimensions shown in Diagram 3.2.



Vertical circulation within a building

3.6 Subject to paragraph 3.7 vertical circulation to any storey above or below the principal entrance storey shall be provided by means of a passenger lift complying with paragraph 3.9 or a ramp complying with paragraph 3.10.

Where such a lift or ramp is provided a stair complying with paragraph 3.8(a) and (h) shall also be provided.

Where such a lift or ramp is not provided (see paragraph 3.7) vertical circulation shall be provided by a stair complying with paragraph 3.8 (a) to (h).

3.7 A passenger lift or a ramp need not be provided to serve a storey which has a nett floor area less than, in the case of –

- (a)** a 2 storey building - 280 m²; or
- (b)** a building of more than 2 storeys - 200 m²,

unless that storey contains a facility to which wheelchair users should have access ie. a facility described in Section 4, 5 or 6 or a common facility such as a canteen or conference room.

The nett floor area of a storey shall be measured as follows –

the areas of all parts of a storey which use the same entrance from the street or an indoor mall shall be added together, whether they are in more than one part of the same storey, or used for different purposes. Areas which shall not be included in the calculation of nett floor area are vertical circulation, sanitary accommodation, machine rooms and areas used for the maintenance or repair of the building.

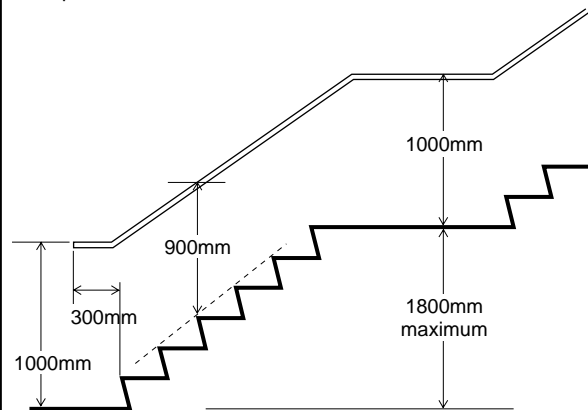
Internal stairs

3.8 An internal stair shall have –

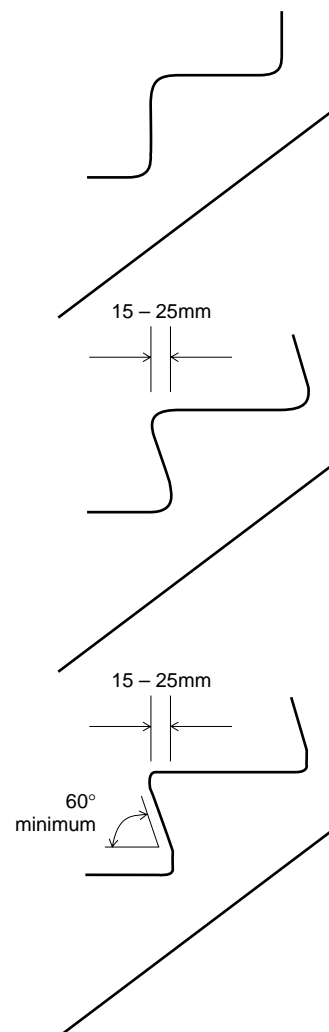
- (a) step nosings which are distinguishable through permanent contrasting brightness;
- (b) an unobstructed width of not less than 1000 mm;
- (c) a rise of not more than 1800 mm in a flight;
- (d) landings with an unobstructed length of not less than 1200 mm clear of any door swing onto them;
- (e) steps with a uniform rise of not more than 170 mm;
- (f) steps with a uniform going of not less than 250 mm (which, in the case of tapered treads, shall be measured at a point 270 mm from the narrow end);
- (g) rises which are not open and have a suitable profile such that the risk of tripping is reduced (see Diagram 3.3(b)); and
- (h) a suitable continuous handrail on each side of the stair complying with the provisions for handrails given in paragraph 2.6 (see Diagram 2.5).

Diagram 3.3 Internal stairs

see para 3.8



(a) internal steps and handrails



(b) examples of suitable tread nosing profiles
maximum rise 170mm
minimum going 250mm

Passenger lifts

3.9 A passenger lift shall –

(a) have a door or doors which provide a clear opening width of not less than 800 mm;

(b) have a car with a width of not less than 1100 mm and a length of not less than 1400 mm measured internally;

(c) have controls that are not less than 900 mm or more than 1200 mm above the floor of the car and are not less than 400 mm horizontally from the front wall of the car;

(d) where it serves more than 2 storeys be provided with –

(i) suitable tactile indication on or adjacent to lift buttons within the car to identify the floor selected; and

(ii) visual indication and voice indication of the floor reached;

(e) incorporate a signalling system which gives 5 seconds notification that the lift is answering a landing call, and have a dwell time of 5 seconds before its doors begin to close after they are fully open. The dwell time may be reduced to 3 seconds where the door closing system is overridden by a door re-activating device which relies on photo-electric or infra-red methods but not a door edge pressure system;

(f) have a landing on each storey with –

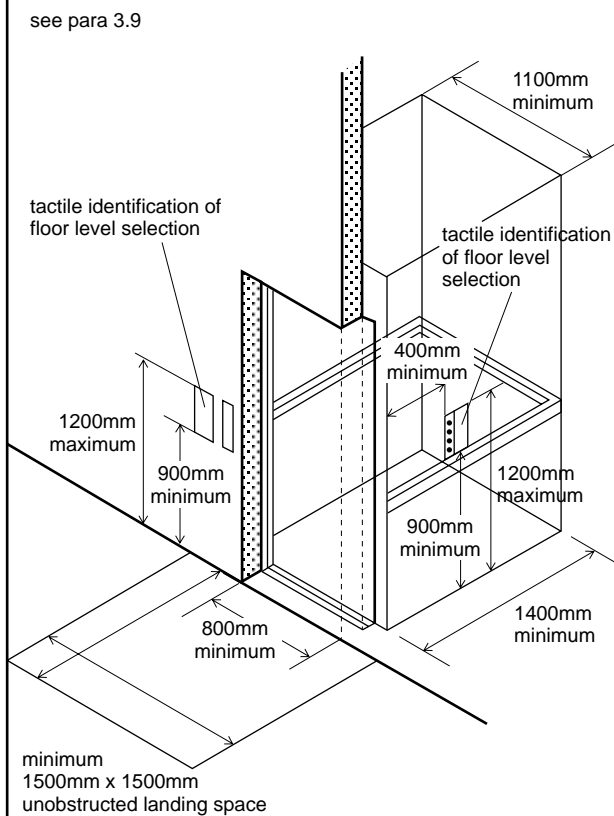
(i) an unobstructed length and width of 1500 mm in front of the door to the lift; and

(ii) lift call buttons which are not less than 900 mm or more than 1200 mm above the floor level of the landing and are accompanied by suitable tactile indications (on or adjacent to the buttons) to identify the storey and direction of travel; and

(g) have suitable means of access to the storey.

See Diagram 3.4.

Diagram 3.4 Lift dimensions



Internal ramps

3.10 An internal ramp shall comply with the provisions for a ramped approach given in paragraph 2.4.

Section 4 – Use of a building

4.1 This Section contains provisions which will assist disabled people to make use of certain facilities in a building other than a dwelling or a block of dwellings.

Restaurants and bars

4.2 In restaurants and bars disabled people shall have access to –

- (a) the full range of services offered;
- (b) all bar and self-service counters; and
- (c) not less than half the area where seating is provided. Where self-service and waiter service

seating are separate, this provision shall apply to both areas.

Hotels and motels

Bedrooms

4.3 At least one guest bedroom out of every 20 or part thereof of guest bedrooms shall be suitable in terms of size, layout and facilities for use by a person who uses a wheelchair and the entrance door shall comply with the provisions of paragraph 3.3 (a) and (b). A suitable layout is shown in Diagram 4.1.

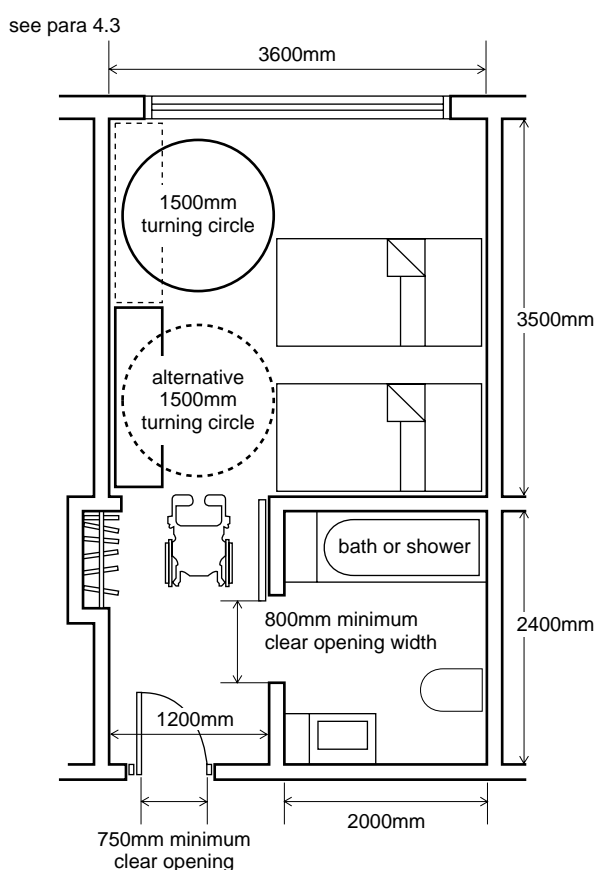
The entrance door to any other guest bedroom shall have a clear opening width of not less than 750 mm.

Bathrooms

4.4 A bath or shower suitable for wheelchair users shall be provided either –

- (a) en suite where that is the arrangement for the rest of the bedrooms; or
- (b) nearby and on the same storey as the bedrooms for wheelchair users with at least one bath or shower for every 6 such bedrooms or part thereof.

Diagram 4.1 A suitable hotel bedroom and en suite bathroom

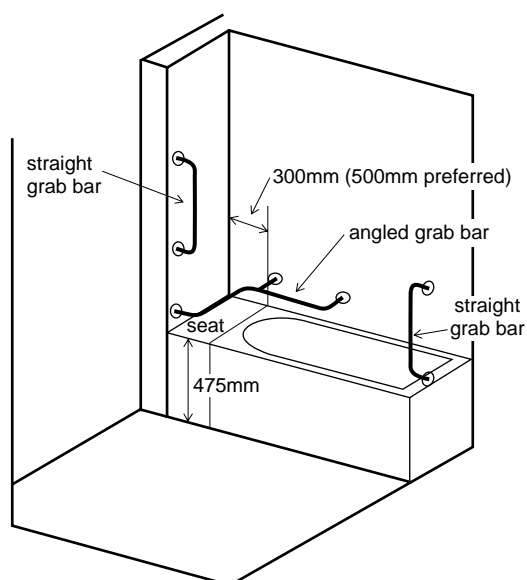


Notes

- (1) Bath arrangement as in Diagram 4.2
- (2) Shower arrangement as in Diagram 4.3
- (3) Grab rails are not shown but should be provided as shown in Diagram 4.2 for a bath, in Diagram 4.3 for a shower and in Diagram 5.1 for a WC
- (4) Sufficient space shall be provided between the WC and bath, to permit lateral transfer from a wheelchair, and between the WC and basin, to permit frontal transfer

Diagram 4.2 A suitable bath arrangement

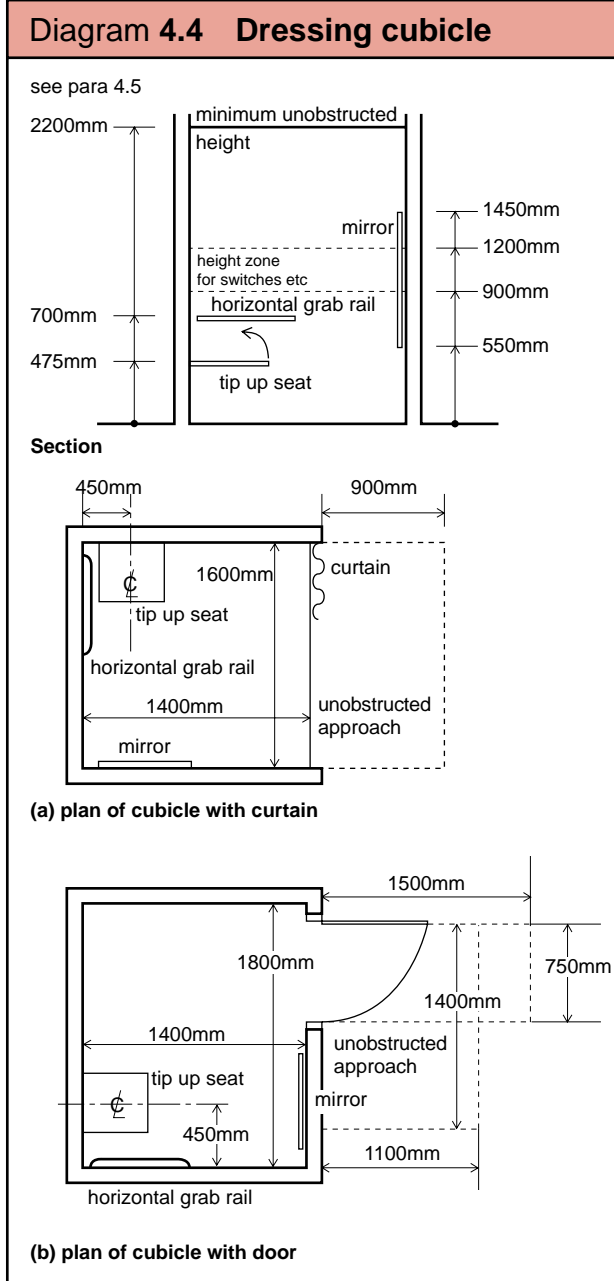
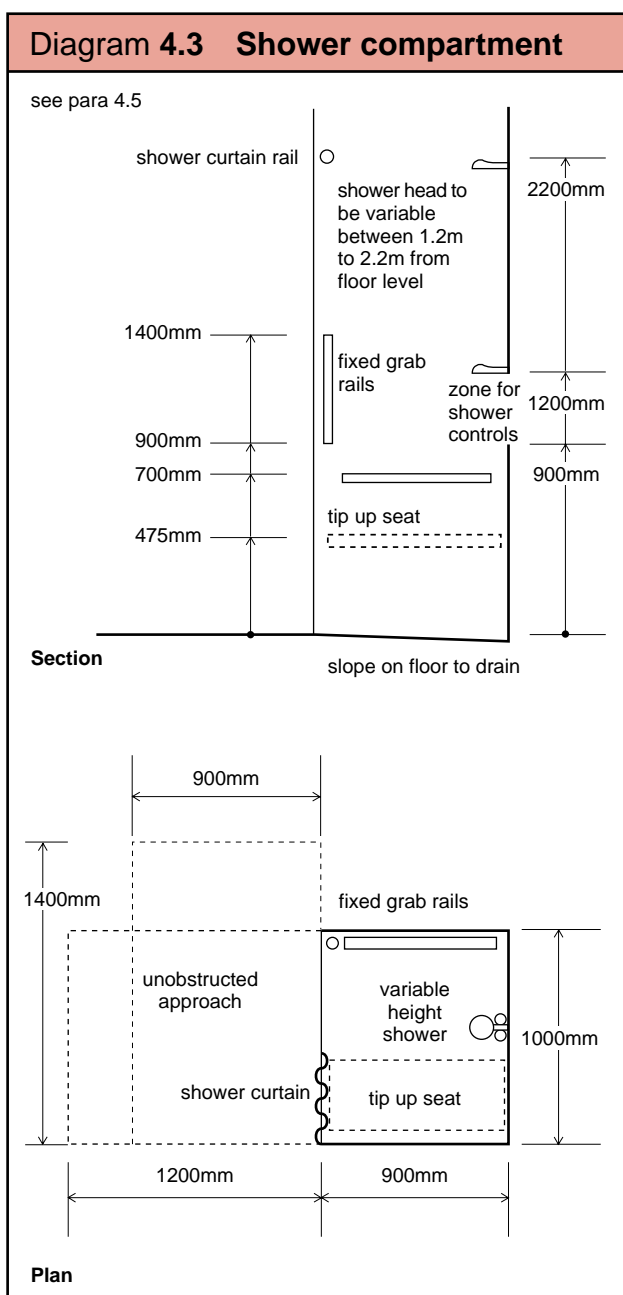
see para 4.4



A suitable en suite bathroom is shown in Diagram 4.1, a suitable bath arrangement is shown in Diagram 4.2 and a suitable shower compartment is shown in Diagram 4.3.

Changing facilities

4.5 Changing rooms in swimming pool and other recreational buildings shall contain at least one shower compartment and dressing cubicle suitable for use by disabled people. A suitable shower compartment is shown in Diagram 4.3 and a suitable dressing cubicle is shown in Diagram 4.4.



Aids to communication

4.6 Auditoria or conference rooms which are more than 100 m² in area, and booking or ticket offices where the customer is separated from the vendor by a glazed screen, shall have a suitable communication system which will afford to a person using a hearing aid the benefit of receiving sound at an adequate level without loss or distortion through poor acoustics or extraneous noise. Such communication systems include loop induction systems and infra-red systems.

Section 5 – Sanitary accommodation

5.1 This Section contains provisions which ensure that there is adequate sanitary accommodation for disabled people in a building other than a dwelling or a block of dwellings.

Provisions for wheelchair users

Visitors and customers

5.2 Where sanitary accommodation is provided for visitors or customers, at least one unit of unisex sanitary accommodation suitable for use by wheelchair users shall be provided (see Diagram 5.1).

Staff

5.3 Sanitary accommodation suitable for staff who use a wheelchair (see Diagram 5.1) shall be provided either –

(a) integral within the traditional separate facilities for male and female; or

(b) as unisex sanitary accommodation.

5.4 In a building which has a passenger lift complying with the provisions of paragraph 3.9 sanitary accommodation for wheelchair users need not be provided on every storey, provided that –

(a) such sanitary accommodation for each sex is available on alternate storeys;

(b) the cumulative horizontal travel distance from any work station to that sanitary accommodation does not exceed 40 m; and

(c) such sanitary accommodation is located in areas to which anyone using the building has unrestricted access.

Hotel and motel guest bedrooms

5.5 The sanitary accommodation for guest bedrooms which are designed to be suitable for wheelchair users shall be in the form of –

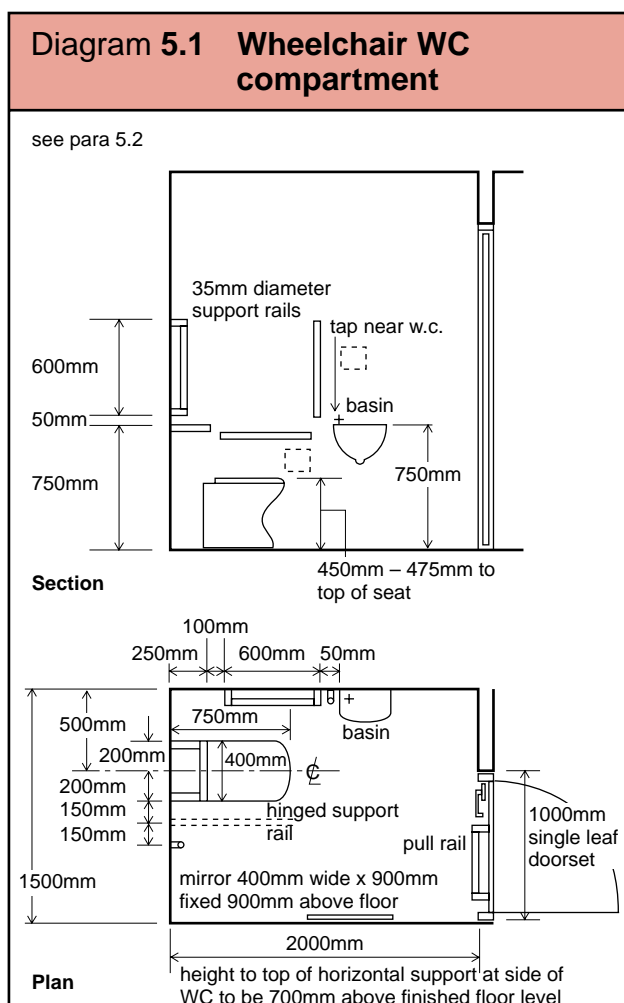
(a) en suite sanitary accommodation where that is the arrangement for the rest of the bedrooms; or

(b) unisex sanitary accommodation located nearby and on the same storey as those bedrooms with at least 1 unit for every 6 bedrooms or part thereof and shall be in addition to sanitary accommodation provided to meet the provisions of paragraphs 5.2 - 5.4, 5.6 and 5.7.

En suite sanitary accommodation shall be as shown in Diagram 4.1 and unisex sanitary accommodation shall be as shown in Diagram 5.1.

Buildings with stair access only

5.6 In a building which has stair access only, the sanitary accommodation required by paragraphs 5.2 and 5.3 shall be provided in the principal entrance storey unless that storey contains only the principal entrance and vertical circulation areas.



Provision for ambulant disabled people

5.7 Where sanitary accommodation is provided on a storey to which there is a stair access only, at least one unit suitable for ambulant disabled people (see Diagram 5.2) shall be provided on that storey either –

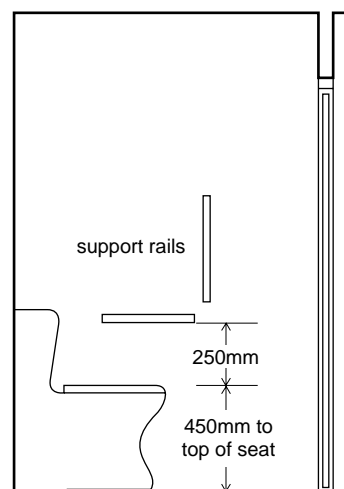
(a) integral within the traditional separate facilities for male and female; or

(b) as unisex sanitary accommodation.

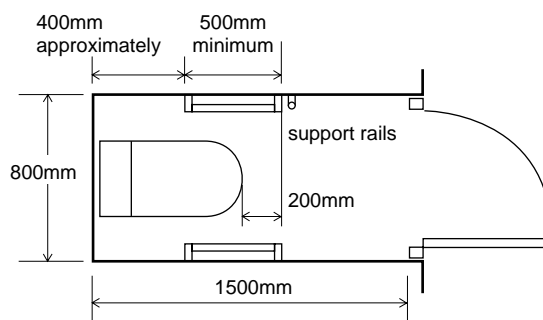
This provision is in addition to that required by paragraph 5.6.

Diagram 5.2 WC compartment for ambulant disabled people

see para 5.7



Section



Plan

Section 6 – Audience or spectator seating

6.1 This Section contains provisions which ensure that there are adequate spaces for wheelchair users in a building which contains audience or spectator seating.

Provision of wheelchair spaces

6.2 Wheelchair spaces shall be provided in buildings where there is audience or spectator seating arranged in such a way as to make it impracticable for a wheelchair user to have access to all seats.

6.3 The minimum number of wheelchair spaces shall be –

(a) where the audience or spectator seating is for the public - 6 or 1/100th of the total number of fixed audience or spectator seats available to the public, whichever is the greater - however in a sports stadium with a seating capacity of more than 1,000 the provision shall be 10 spaces and one additional space for every 2,000 seats or part thereof; or

(b) in any other case - 2 or 1/100th of the total number of fixed audience or spectator seats, whichever is the greater.

6.4 Wheelchair spaces shall be located in a similar manner to that shown in Diagram 6.1 for a theatre and Diagram 6.2 for a stadium.

The space may be one which is kept clear or be one which can readily be provided for the occasion by removing a seat or seats.

Diagram 6.1 Disposition of wheelchair spaces in a theatre

see para 6.4

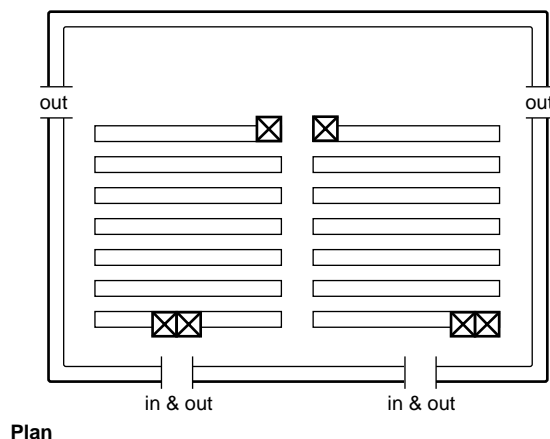
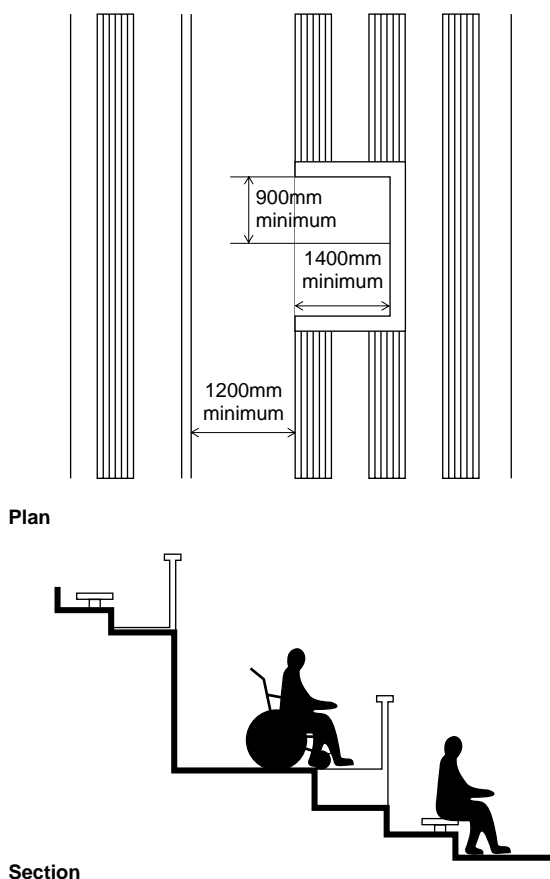


Diagram 6.2 Viewing positions for disabled people in a stadium area

see para 6.4



Section 7 – Means of access to and into a dwelling

7.1 This Section deals with the external approach to a dwelling and to a common entrance to a block of dwellings.

General provisions

7.2 Disabled people shall have access from the point of entry to the principal entrance of a dwelling or the common entrance to a block of dwellings by –

(a) a level approach complying with the provisions of paragraph 7.6; or

(b) a ramped approach complying with the provisions of paragraph 7.7.

A combination of (a) and (b) may be used.

7.3 Where the plot gradient to the principal entrance of a dwelling or the common entrance to a block of dwellings is greater than –

(a) 1 in 15; or

(b) 1 in 12 where the travel distance is less than 5m,

access may be provided to an alternative entrance complying with the provisions of paragraph 7.2.

Where the plot gradient to an alternative entrance is greater than (a) or (b), a stepped approach complying with the provisions of paragraph 7.8 shall be provided.

7.4 Where the point of entry is at the boundary of the plot it shall have an unobstructed width of not less than 900 mm.

7.5 Where a driveway provides the whole or part of the approach, it shall comply with the provisions of paragraphs 7.6 or 7.7. The approach shall be clear of any parking space.

Where there is a need to guard the approach, guarding shall be provided complying with the provisions of Technical Booklet H: Section 4 (where category 1 (b) or (d) in Table 4.1 shall be used).

Level approach

7.6 A level approach shall have –

(a) a surface which is firm and even;

(b) an unobstructed width not less than 900 mm; and

(c) a slope not exceeding 1 in 20.

Where a level approach has a crossfall it shall not exceed 1 in 40.

Ramped approach

7.7 A ramped approach shall have –

(a) a surface which is firm and even;

(b) an unobstructed width not less than 900 mm;

(c) a ramp or ramps not exceeding –

(i) 10 m in length where the slope of the ramp does not exceed 1 in 15; or

(ii) 5 m in length where the slope of the ramp does not exceed 1 in 12; and

(d) landings with an unobstructed length of not less than 1200 mm.

Stepped approach

7.8 A stepped approach shall have –

(a) a flight or flights with an unobstructed width of not less than 900 mm;

(b) a rise of not more than 1800 mm in each flight of steps;

(c) steps with a uniform rise of not less than 75 mm and not more than 150 mm;

(d) steps with a uniform going of not less than 280 mm (which in the case of tapered treads shall be measured at a point 270 mm from the narrow end);

(e) steps that are not open and have a suitable profile such that the risk of tripping is reduced (see Diagram 7.1);

(f) a maximum of 16 steps in a flight;

(g) landings with an unobstructed length of not less than 900 mm; and

(h) a suitable continuous handrail (see paragraph 7.9) on one side of the flight and at an intermediate landing where the flight comprises three or more steps.

7.9 A stepped approach shall have a suitable handrail which –

(a) is at a height measured vertically of –

(i) 900 mm above the pitch line of a flight of steps; and

(ii) 1000 mm above the surface of a landing; and

(b) extends not less than 300 mm horizontally beyond the top and bottom nosings of a flight of steps.

Principal entrance

7.10 The principal entrance to a dwelling or the common entrance to a block of dwellings shall have a door with a minimum clear opening width of not less than 775 mm and a level threshold (see Diagram 7.2).

The access to the principal entrance to a dwelling or the common entrance to a block of dwellings shall be –

(a) level for a distance of not less than 900 mm; and

(b) at or about the level of the floor of the dwelling.

Where access is by an alternative entrance the above provisions shall apply to that entrance and not to the principal entrance or the common entrance to a block of dwellings.

Diagram 7.1 External step profiles

see para 7.8

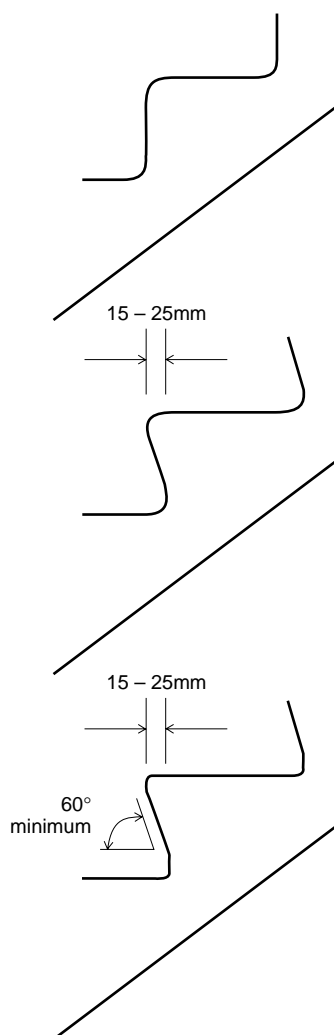
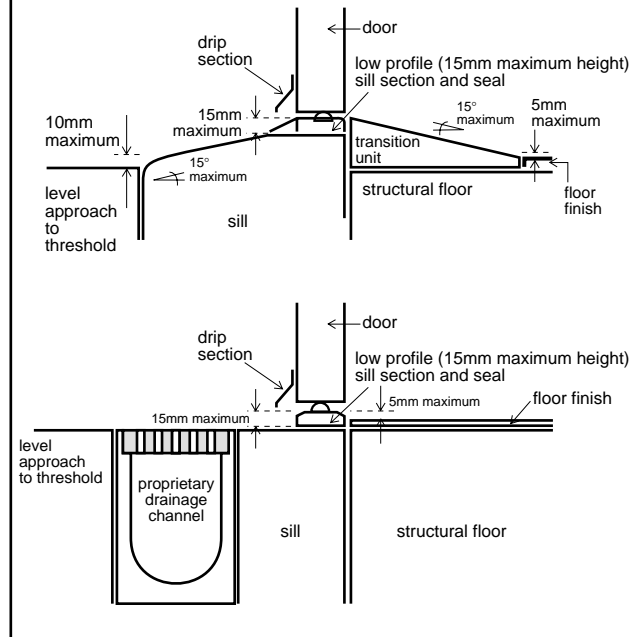


Diagram 7.2 Level thresholds

see para 7.10



Section 8 – Circulation within a dwelling

8.1 In a dwelling, disabled people shall have access from the principal entrance (or an alternative entrance) to all habitable rooms and to a sanitary convenience in the entrance storey. However, where there are no habitable rooms in the entrance storey, disabled people shall have access to all habitable rooms and to a sanitary convenience in the principal storey.

Horizontal circulation

Widths of circulation routes and doorways

8.2 The widths of circulation routes and doorways are interrelated and depend on the direction of approach of a wheelchair. Table 8.1 gives the minimum widths of circulation routes for a range of doorway widths and directions of approach.

Table 8.1 Minimum widths of circulation routes

Clear opening of doorway (mm)	Direction of approach	Minimum width of circulation route (mm)
750	head-on	900
750	not head-on	1200
775	not head-on	1050
800	not head-on	900

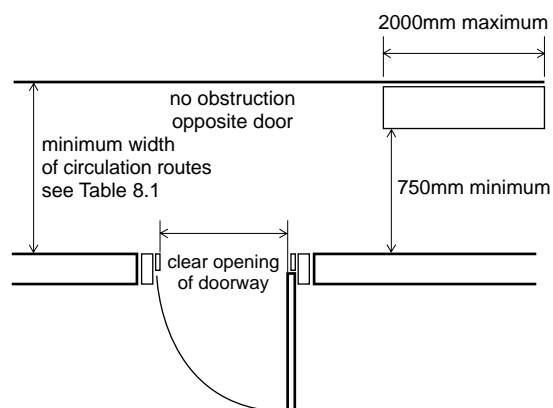
8.3 The width of a circulation route may be reduced to 750 mm at a local permanent obstruction or projection provided that the obstruction or projection is not greater than 2000 mm in length and is not located –

- (a) opposite a door to a room; or
- (b) where it would prevent a wheelchair user turning into or out of a room.

See Diagram 8.1.

Diagram 8.1 Obstructions in circulation routes

see para 8.3



Vertical circulation

Stairs

8.4 Where the circulation route within the entrance storey or the access to the circulation route within the principal storey includes a stair, the stair shall –

- (a) have an unobstructed width of not less than 900 mm;
- (b) have a suitable continuous handrail on each side of the flight and any intermediate landing; and
- (c) comply with the relevant provisions of Technical Booklet H.

Section 9 – Common stairs and passenger lifts in a block of dwellings

9.1 This Section deals with access within the common areas of a block of dwellings e.g. flats, and contains provisions for horizontal and vertical circulation.

Common areas are the circulation routes used by the occupants of the dwellings and include the entrance halls, corridors, lobbies, stairs and lifts.

9.2 Access for disabled people shall be provided from the common entrance of the block of dwellings to the principal entrance of each dwelling.

Horizontal circulation

9.3 A horizontal circulation route within a common area shall be level or ramped and have an unobstructed width of not less than 1200 mm.

Where a handrail is provided, the width at handrail level may be reduced to not less than 1000 mm.

Where the circulation route contains a ramp, the ramp shall –

(a) not exceed –

(i) 10 m in length where the slope of the ramp does not exceed 1 in 15; or

(ii) 5 m in length where the slope of the ramp does not exceed 1 in 12;

(b) have landings with an unobstructed length of not less than 1200 mm; and

(c) have a suitable continuous handrail on each side if the horizontal length of the ramp is more than 2000 mm.

Vertical circulation

9.4 A vertical circulation route to any storey shall be provided by a common stair and where a lift is provided, by a suitable passenger lift.

Common stairs

9.5 A common stair shall have –

(a) step nosings which are distinguishable through permanent contrasting brightness;

(b) an unobstructed width of not less than 1000 mm;

(c) steps with a uniform rise of not more than 170 mm;

(d) steps with a uniform going of not less than 250 mm (which, in the case of tapered treads shall be measured at a point 270 mm from the narrow end);

(e) rises which are not open and have a suitable profile such that the risk of tripping is reduced, (see Diagram 9.1(b));

(f) landings with an unobstructed length of not less than 1200 mm clear of any door swing onto them; and

(g) a suitable continuous handrail on each side and the handrail shall extend not less than 300 mm horizontally beyond the top and bottom nosings.

See Diagram 9.1.

9.6 Where a passenger lift is provided a common stair need only comply with (a) and (g) of paragraph 9.5.

Passenger lifts

9.7 A passenger lift shall –

(a) have a door or doors which provide a clear opening width of not less than 800 mm;

(b) have a car with a width of not less than 900 mm and a depth not less than 1250 mm measured internally;

(c) have controls which are not less than 900 mm or more than 1200 mm above the floor of the car and are not less than 400 mm horizontally from the front wall of the car;

(d) where it serves more than three storeys have visual and audible indications of the floor reached;

(e) incorporate a signalling system which gives 5 seconds notification that the lift is answering a landing call, and a dwell time of 5 seconds before its doors begin to close after they are fully open. The dwell time may be reduced to 3 seconds where the door closing system is overridden by a door re-activating device which relies on photo-electric or infra-red methods, but not a door edge pressure system;

(f) have a landing on each storey with –

(i) an unobstructed length and width of not less than 1500 mm in front of the door to the lift; and

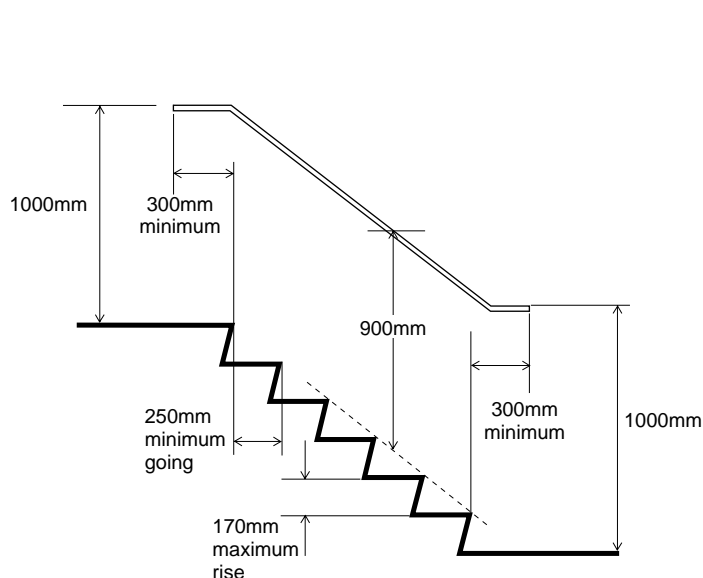
(ii) lift call buttons which are not less than 900 mm or more than 1200 mm above the floor level of the landing and are accompanied by suitable tactile indications (on or adjacent to the buttons) to identify the storey and direction of travel; and

(g) have a minimum load capacity of 400 kg.

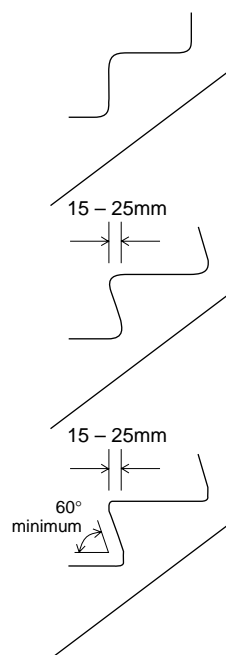
Many of the above features are shown in Diagram 3.4.

Diagram 9.1 A common stair in a block of dwellings

see para 9.5



(a) common stair and handrails



(b) examples of suitable tread nosing profiles

Section 10 – Sanitary convenience in a dwelling

10.1 A water closet shall be located so as to have a clear space of not less than 900 mm by 750 mm for a disabled person to access it (see Diagrams 10.1 and 10.2). The wash-hand basin may project into this clear space provided that it does not impede access to the water closet.

10.2 For frontal access to the water closet the clear space shall be centred on the water closet as shown in Diagram 10.1.

For oblique access to the water closet the clear space shall be offset towards the access as shown in Diagram 10.2.

10.3 A doorway providing access to the sanitary convenience shall –

(a) be positioned to enable a wheelchair user to access the clear space in front of the water closet;

(b) have a clear opening width of not less than that given in Table 10.1; and

(c) where there is oblique access, be located so that its edge is not in front of, or 250 mm behind, the water closet, unless there is adequate space within the room to manoeuvre a wheelchair.

10.4 The door shall –

(a) open outwards; or

(b) not impinge at any point of its swing upon the clear space.

Table 10.1 Clear opening widths of doorways

Minimum width of circulation route (mm)	Direction of approach	Clear opening of doorway (mm)
900	head-on	750
1200	not head-on	750
1050	not head-on	775
900	not head-on	800

Diagram 10.1 Clear space for frontal access to the water closet

see paras 10.1 and 10.2

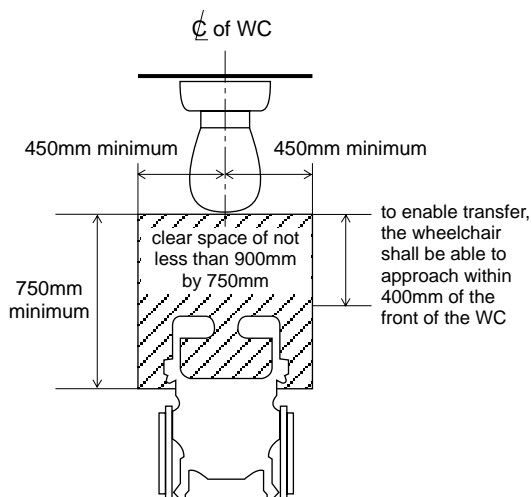
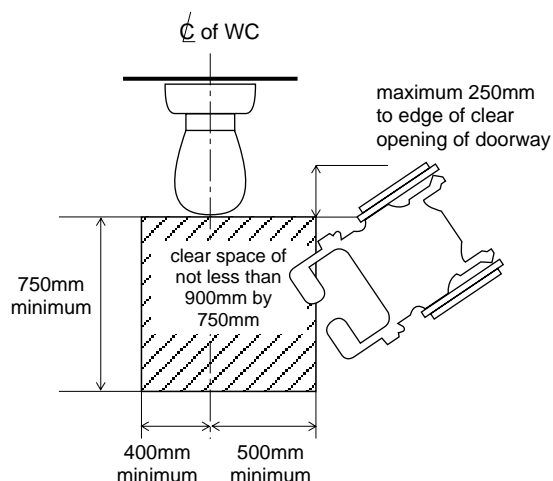


Diagram 10.2 Clear space for oblique access to the water closet

see paras 10.1 and 10.2



Section 11 – Heights of switches, socket outlets etc. in a dwelling

General

11.1 Wall mounted socket outlets and switches (other than isolators) in the entrance storey, and where appropriate the principal storey, shall be located not more than 1200 mm or not less than 450 mm above the floor level.

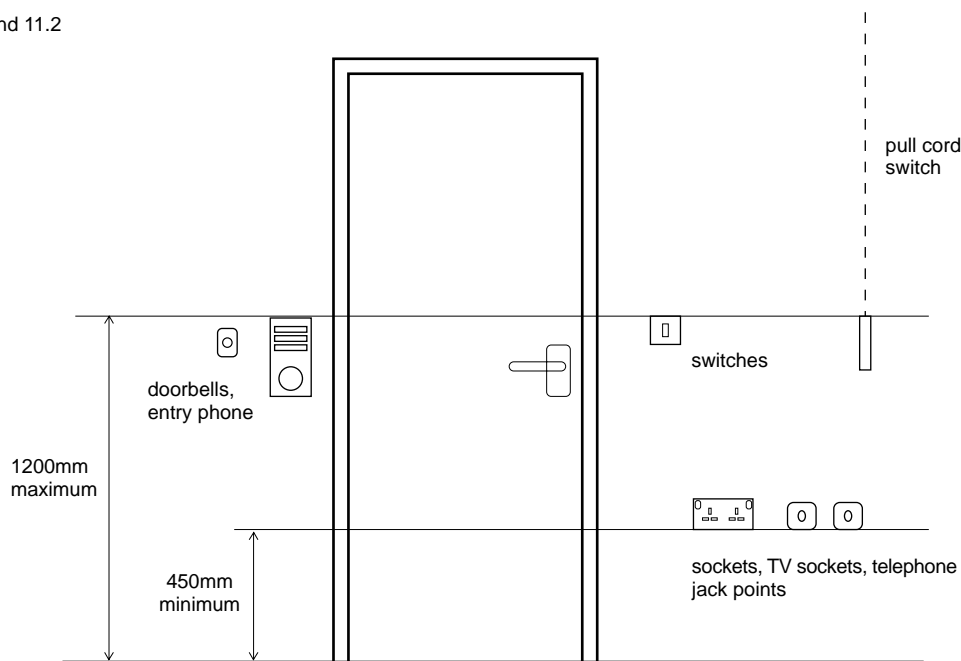
See Diagram 11.1.

11.2 The cord of a pull cord switch shall terminate not more than 1200 mm above the floor level.

See Diagram 11.1.

Diagram 11.1 Heights of switches and socket outlets

see paras 11.1 and 11.2



Appendix – Publications referred to

BS 4787: Internal and external wood doorsets, door leaves and frames.

Part 1:1980 (1985) Specification for dimensional requirements.

AMD 4737, November 1984

AMD 8721, June 1995

AMD 8963, December 1995

BS 6440:1999 Power lifting platforms for use by disabled persons. Code of practice.

DOE Technical Booklet E: 1994 – Fire safety.

AMD 1, December 1998

AMD 2, December 2000

DFP Technical Booklet H: 2000 – Stairs, ramps, guarding and protection from impact.