

DESIGN GUIDE

# METRIC DATA



First In Architecture

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# METRIC DATA 01:

## AVERAGE STANDING DIMENSIONS

From FIRST IN ARCHITECTURE

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### Average dimensions of woman standing

Upward reach dimension of average woman: 1970mm

Top of head height of average woman: 1650mm

Eye level of average woman: 1545mm

Shoulder height average woman: 1355mm

Shoulder width of average woman: 405mm

Side reach of average woman: 820mm

Full reach finger to finger of average woman: 1650mm

Forward reach of average woman: 705mm

Knuckle height of average woman: 740mm

Hip width of average woman: 400mm

### Average dimensions of man standing

Upward reach dimension of average man: 2120mm

Top of head height of average man: 1740mm

Eye level of average man: 1635mm

Shoulder height average man: 1430mm

Shoulder width of average man: 460mm

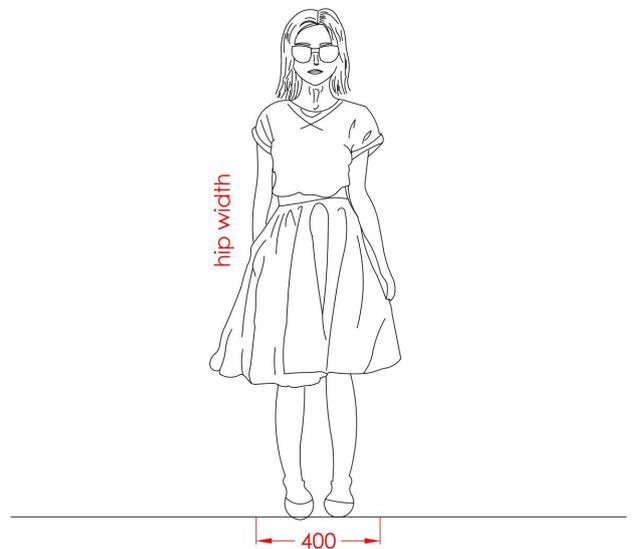
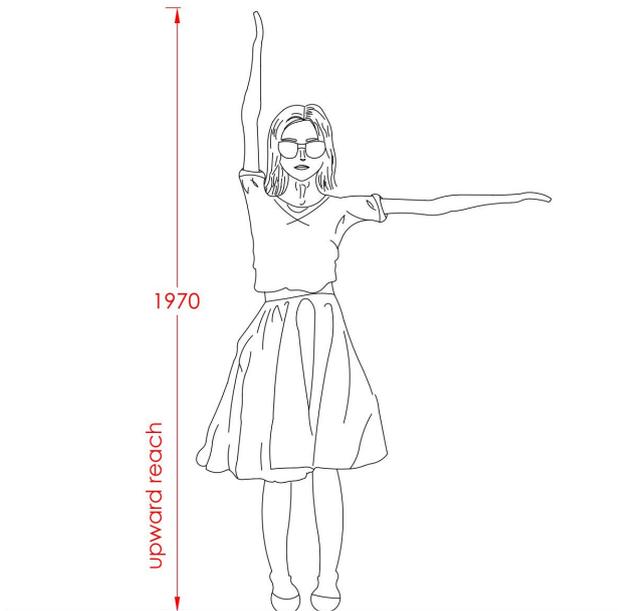
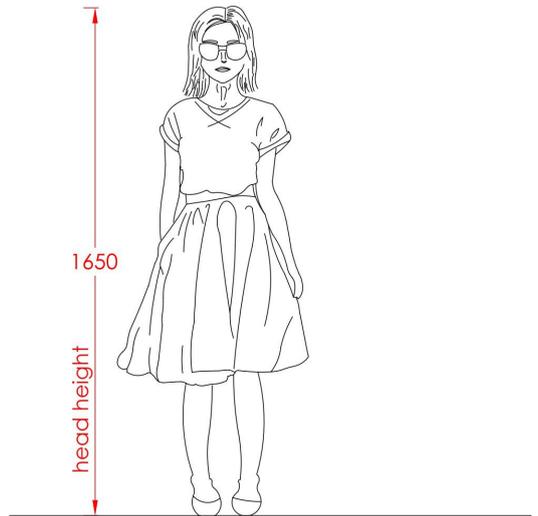
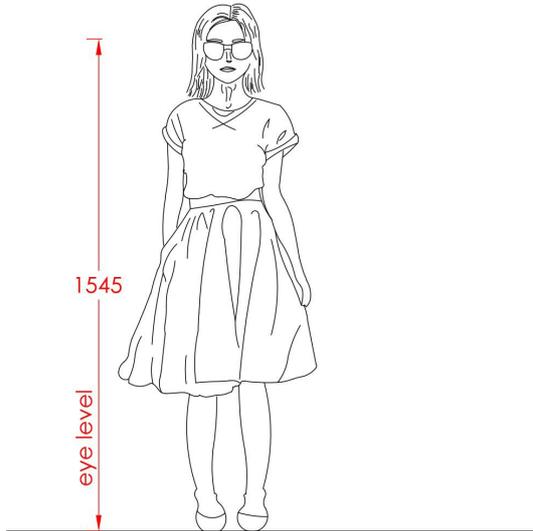
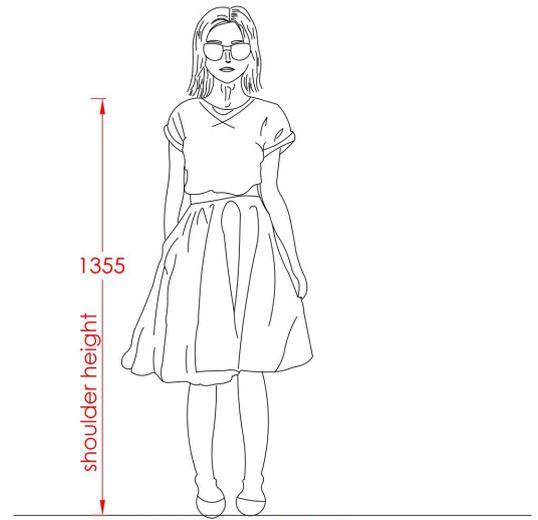
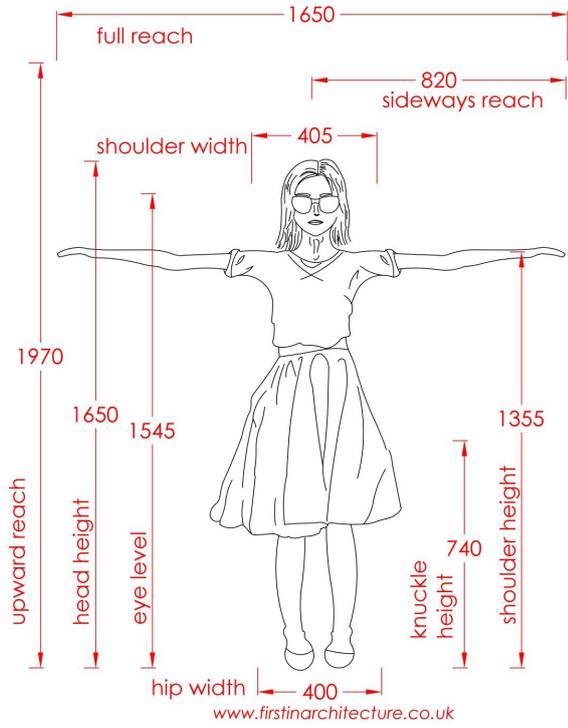
Side reach of average man: 885mm

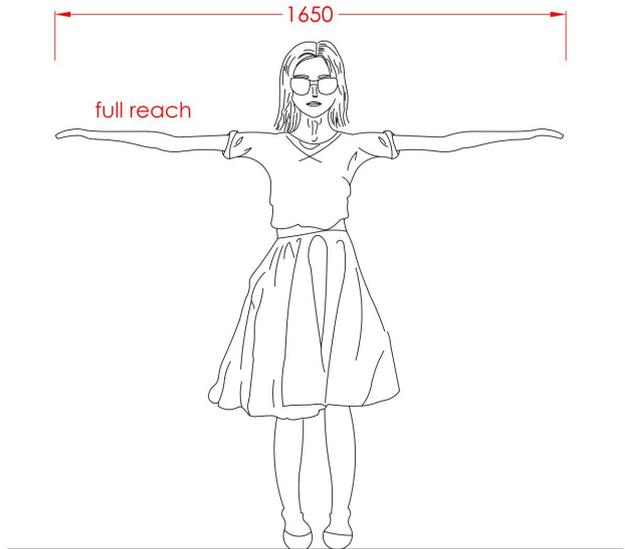
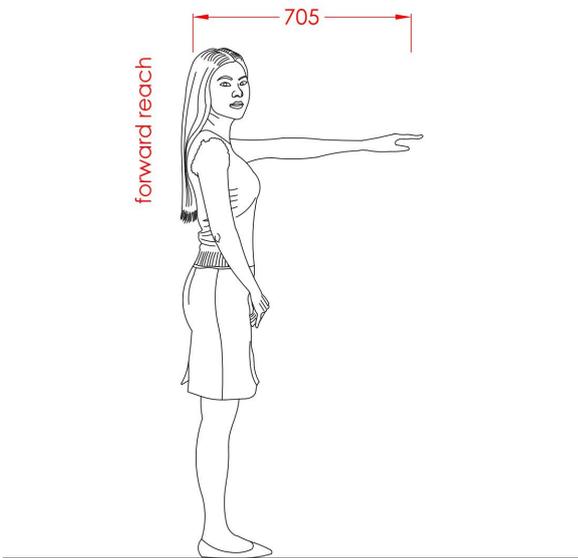
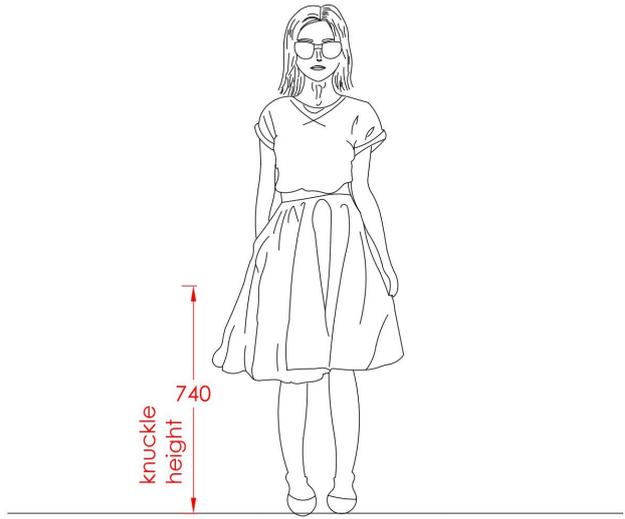
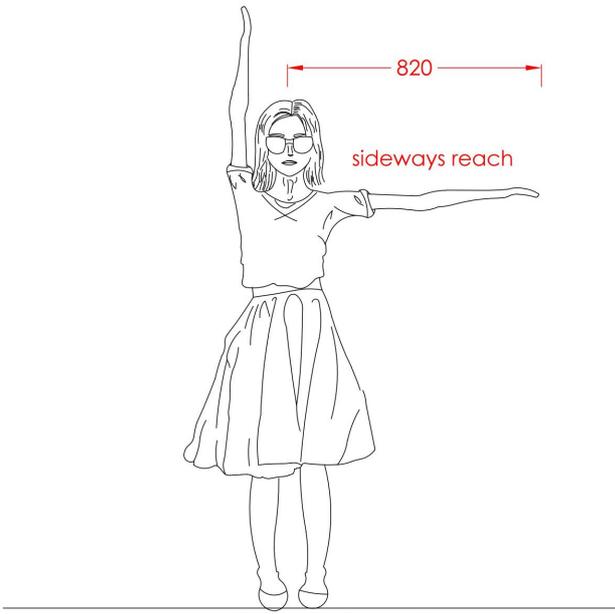
Full reach finger to finger of average man: 1790mm

Forward reach of average man: 780mm

Knuckle height of average man: 770mm

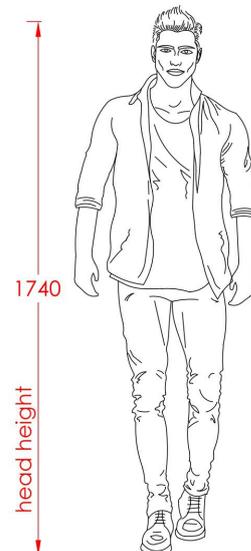
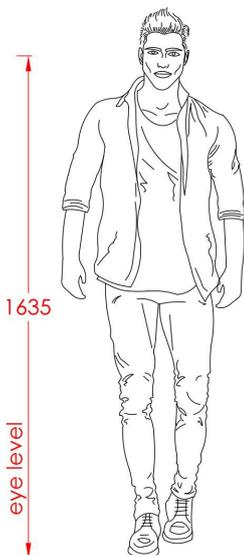
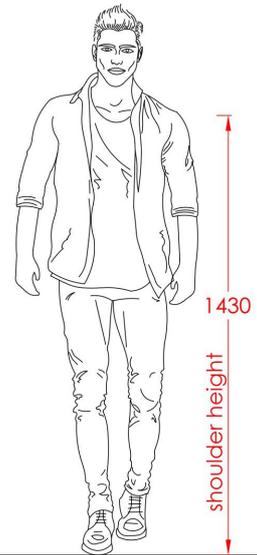
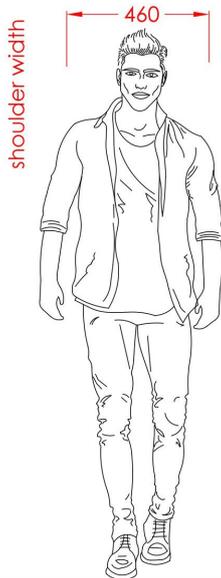
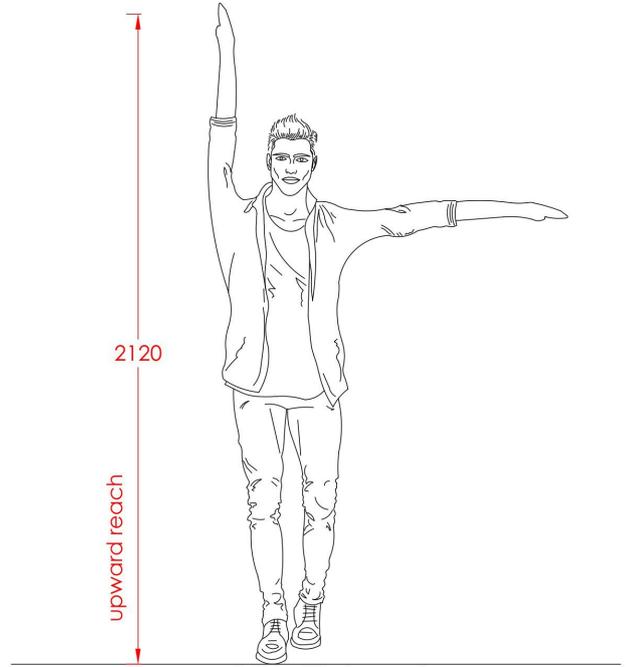
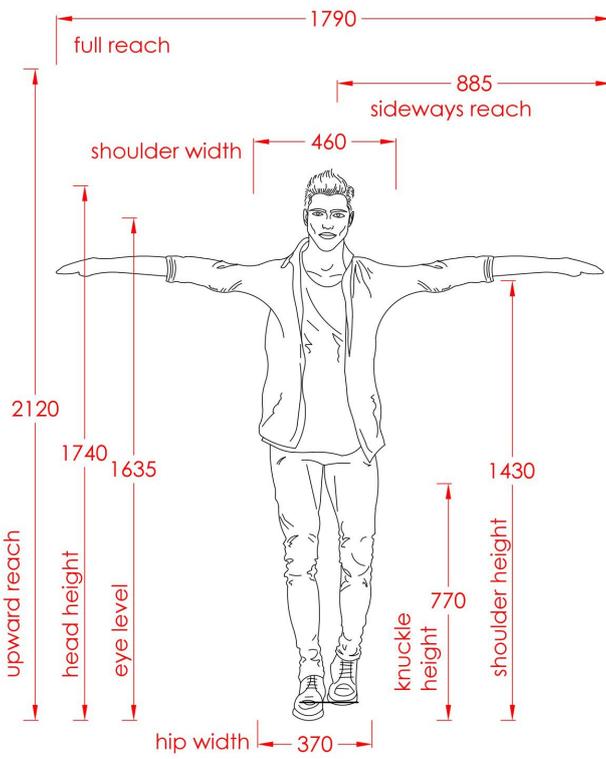
Hip width of average man: 370mm

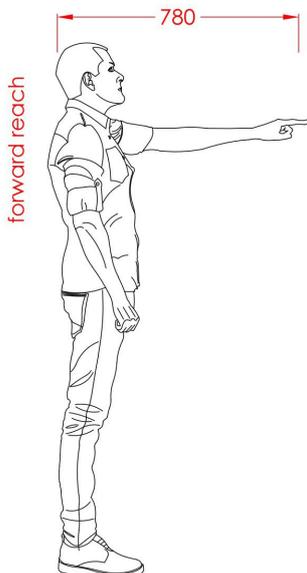
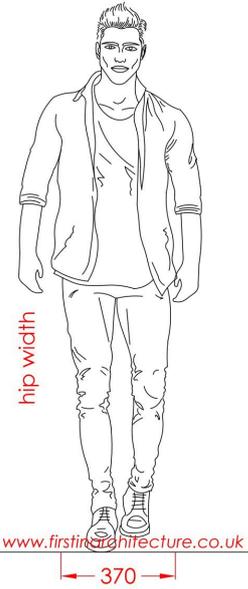
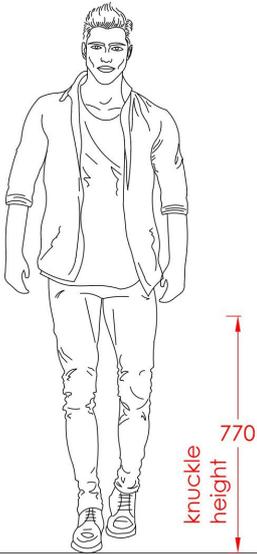
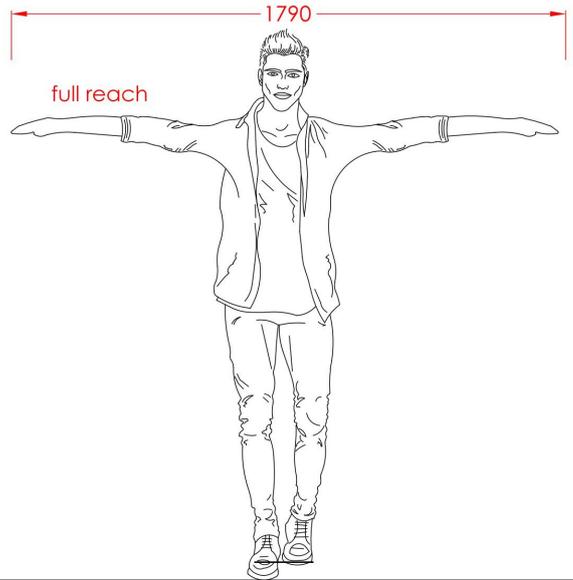




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# METRIC DATA 02:

## AVERAGE SITTING DIMENSIONS

From FIRST IN ARCHITECTURE

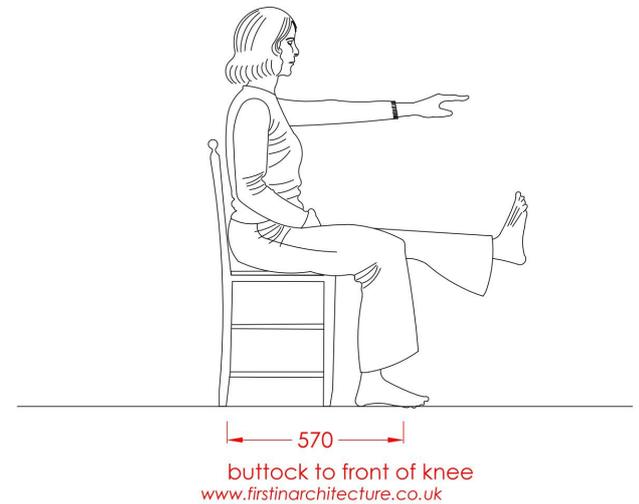
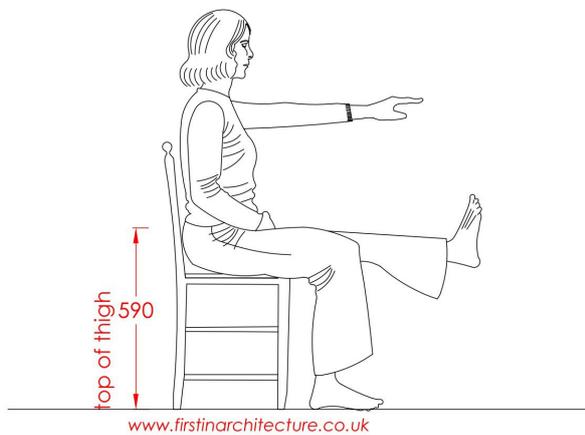
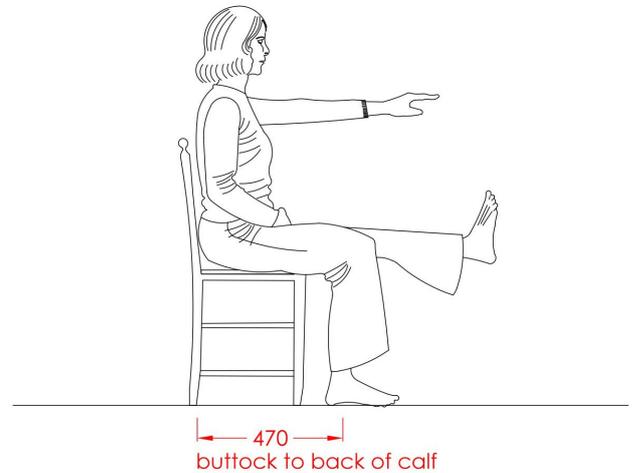
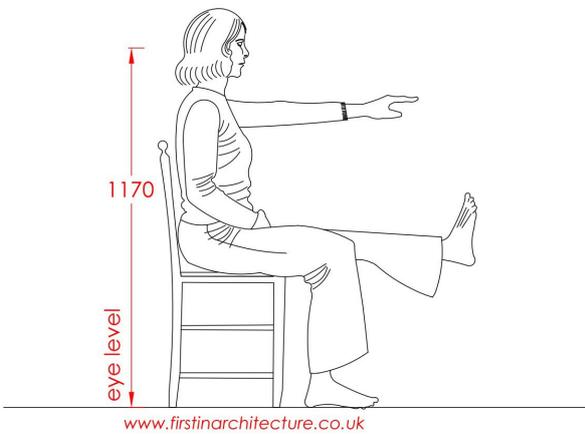
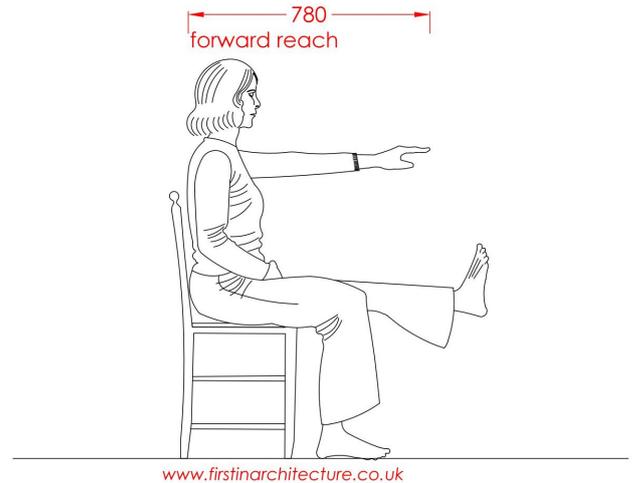
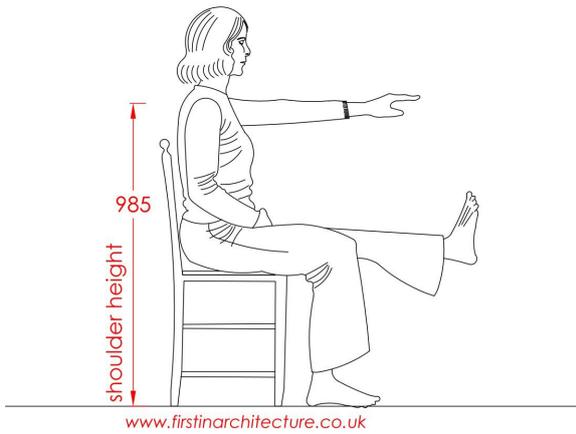
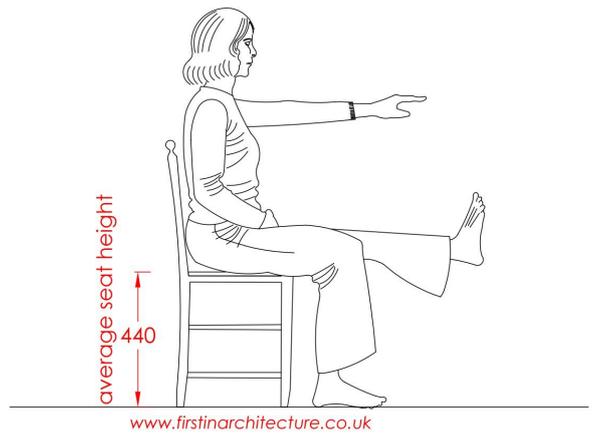
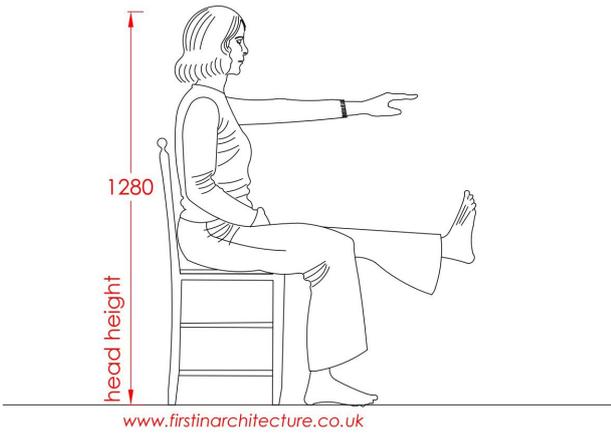
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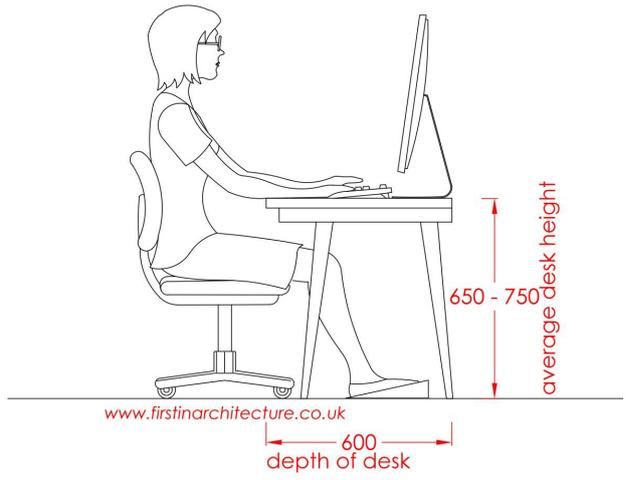
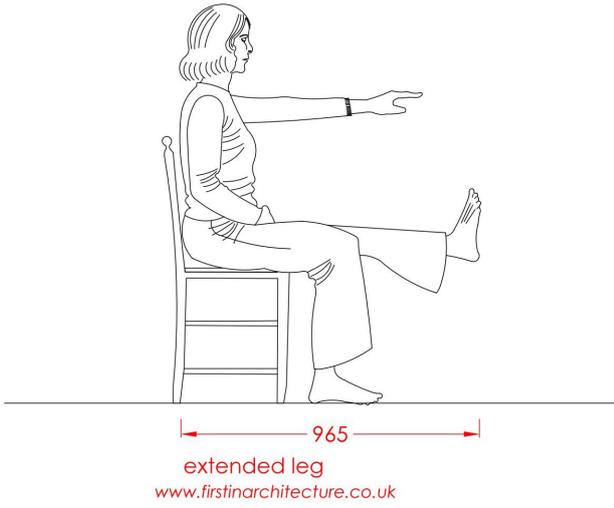
### Average dimensions of woman sitting

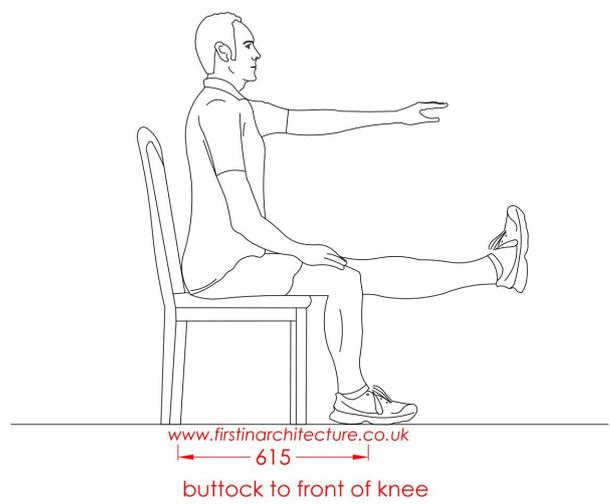
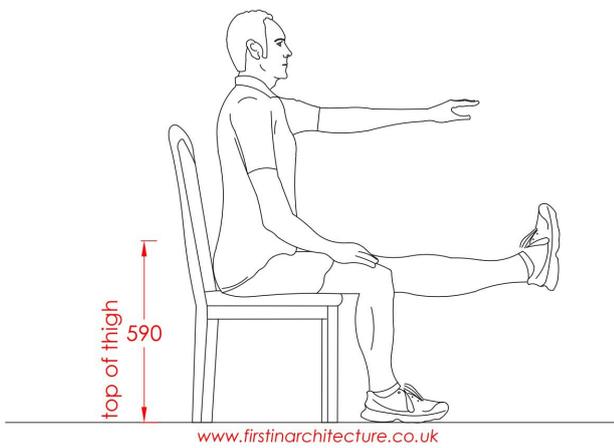
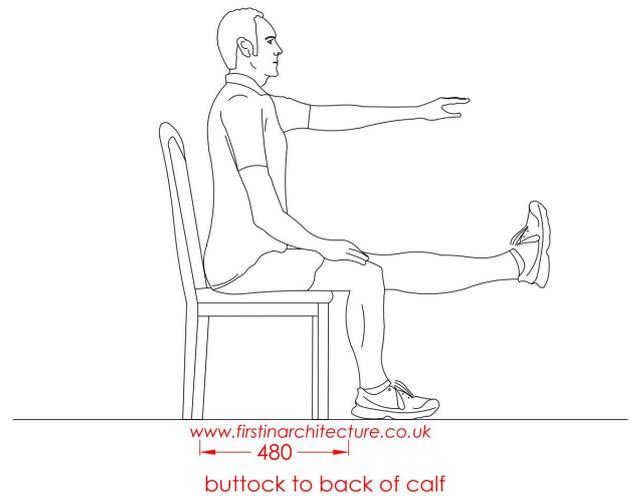
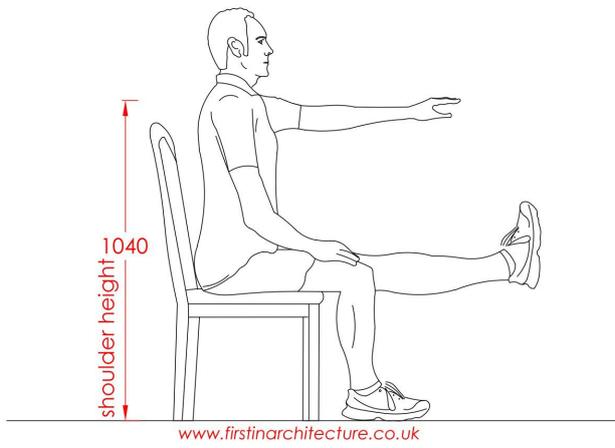
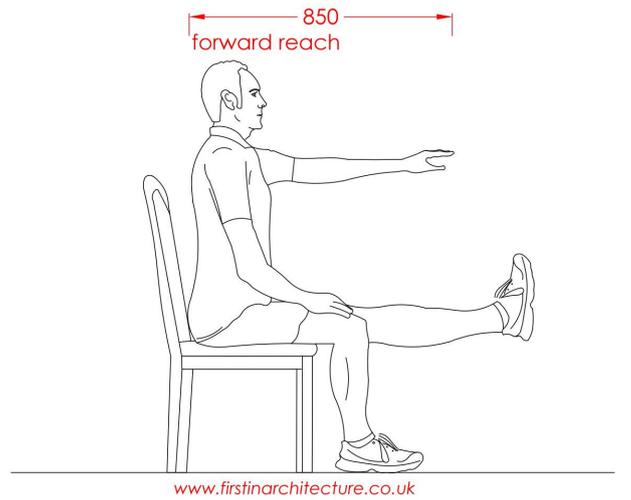
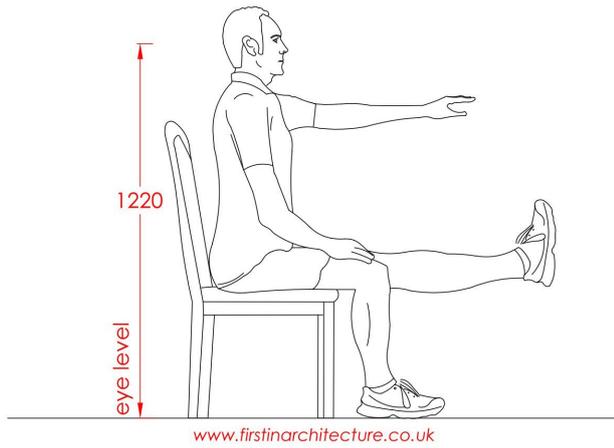
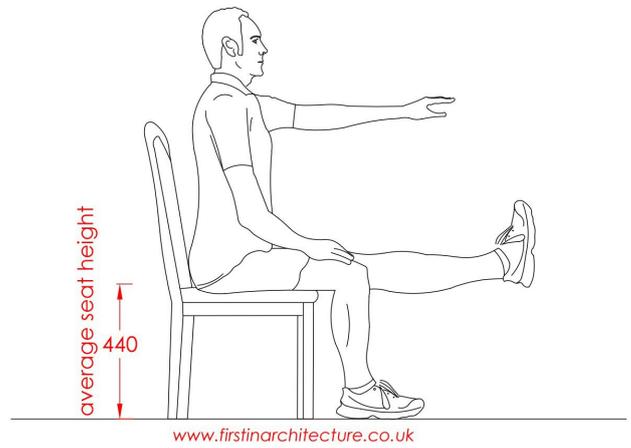
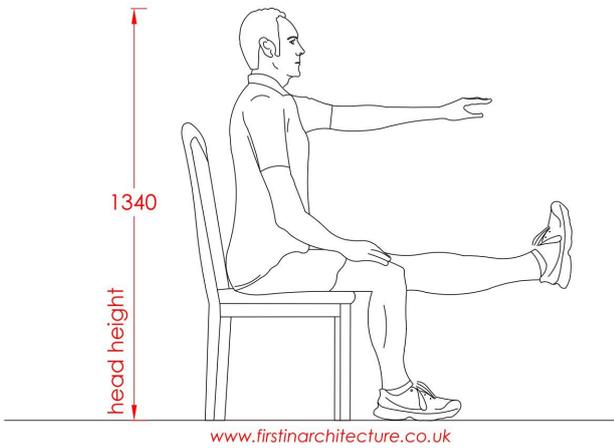
- Top of head height of woman sitting: 1280mm
- Eye level of woman when sitting: 1170mm
- Shoulder height of woman sitting: 985mm
- Top of thigh of woman sitting: 590mm
- Average seat height: 440mm
- Forward reach of average woman sitting: 780mm
- Buttock to back of calf of woman sitting: 470mm
- Buttock to knee of woman sitting: 570mm
- Extended leg of average woman sitting: 965mm
- Desk height: 650 - 750mm
- Depth of desk: 600mm

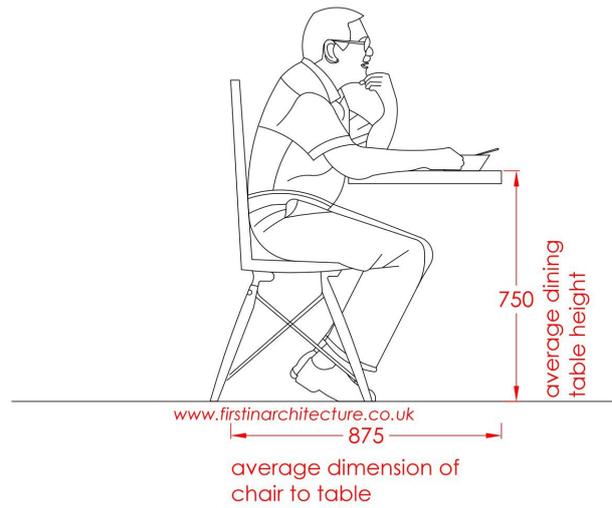
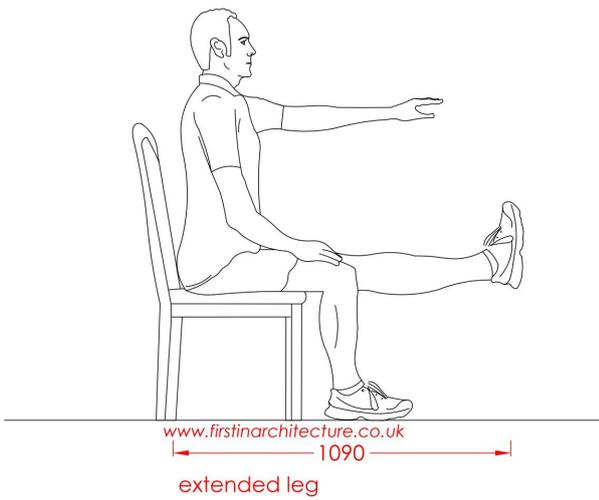
### Average dimensions of man sitting

- Top of head height of man sitting: 1340mm
- Eye level of man when sitting: 1220mm
- Shoulder height of man sitting: 1040mm
- Top of thigh of man sitting: 590mm
- Average seat height: 440mm
- Forward reach of average man sitting: 850mm
- Buttock to back of calf of man sitting: 480mm
- Buttock to knee of man sitting: 615mm
- Dining table height: 750mm









Read the original post here:

<https://www.firstinarchitecture.co.uk/metric-data-02-average-dimensions-of-person-sitting>

# METRIC DATA 03: AVERAGE WHEELCHAIR USER DIMENSIONS

From FIRST IN ARCHITECTURE

## Average dimensions of a wheelchair

Average wheelchair width at back: 630mm

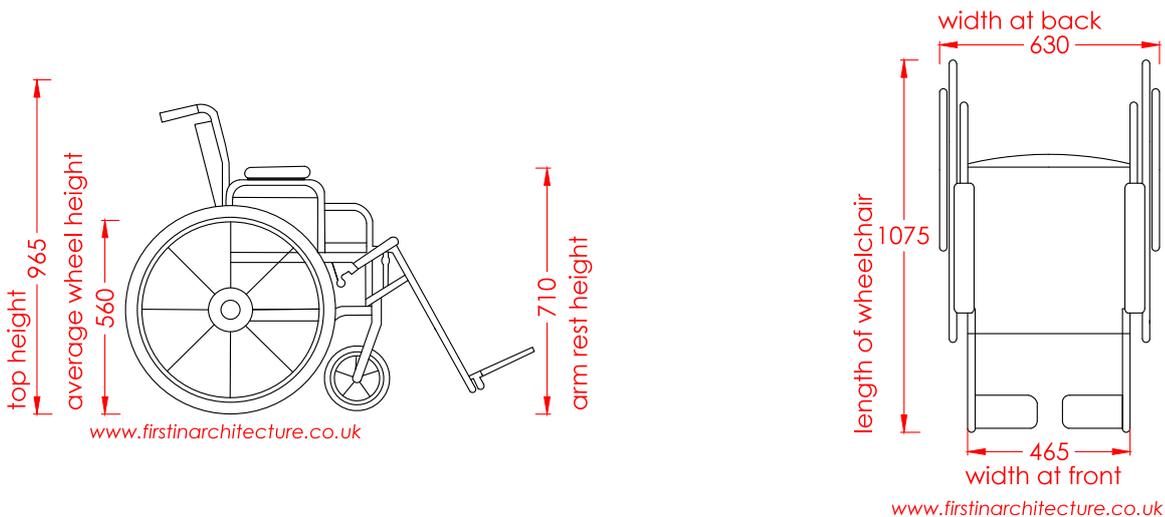
Average wheelchair width at front: 465mm

Average wheelchair height top: 965mm

Average wheelchair armrest height: 710mm

Average wheelchair wheel height: 560mm

Average wheelchair length: 1075mm



# Average dimensions of man in wheelchair

Wheelchair user man high reach: 1715mm

Wheelchair user man forward reach (over table): 580mm

Wheelchair user man head height: 1330mm

Wheelchair user man eye level: 1220mm

Wheelchair user man shoulder height: 1035mm

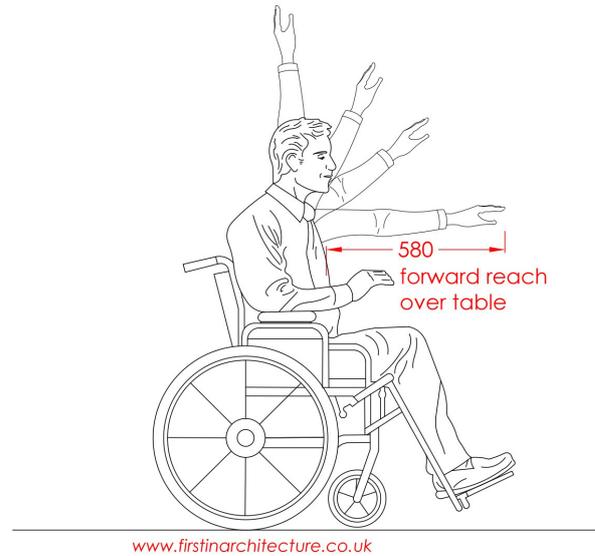
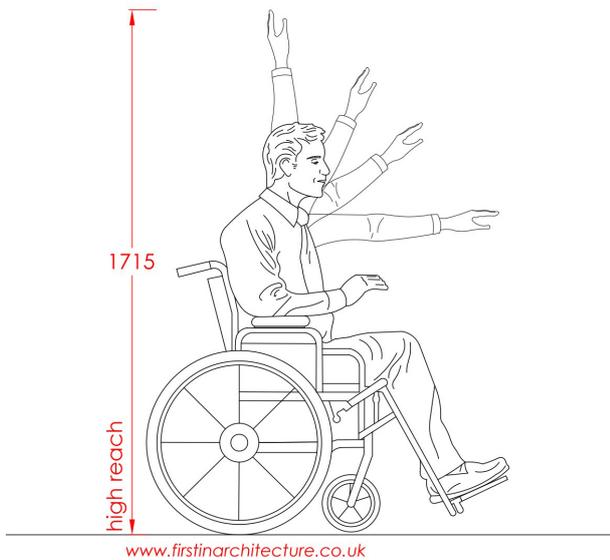
Wheelchair user man elbow height: 690mm

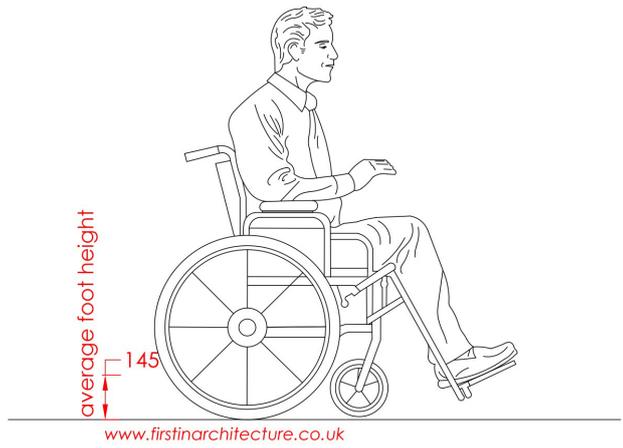
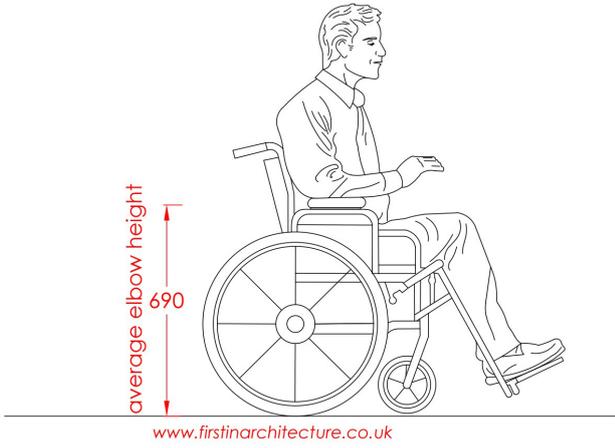
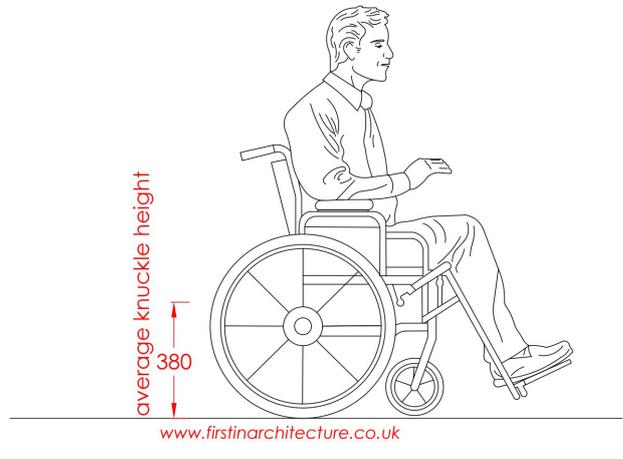
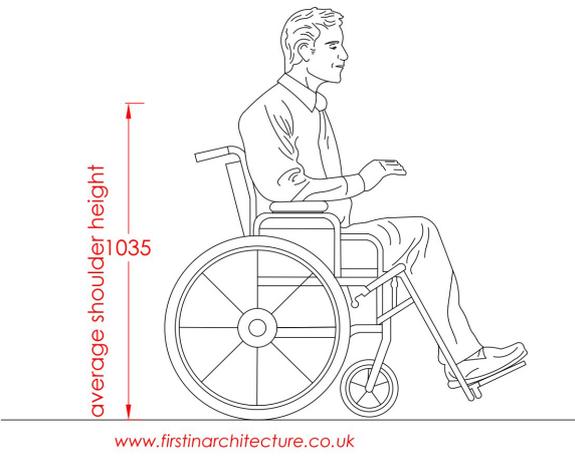
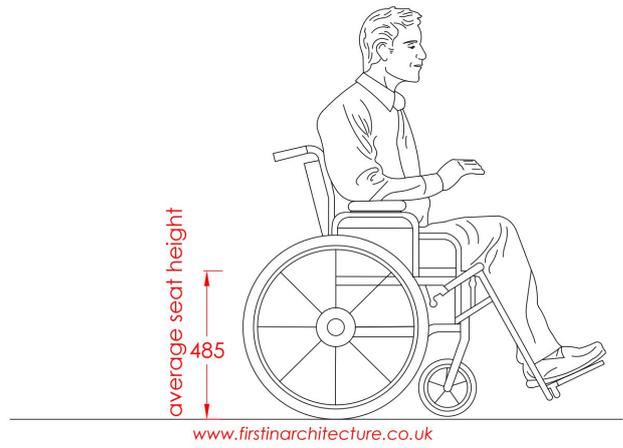
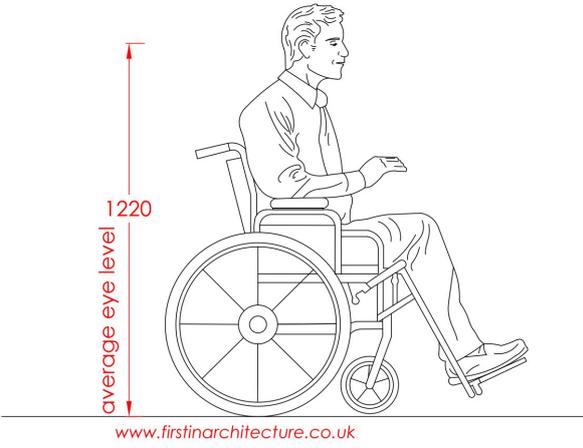
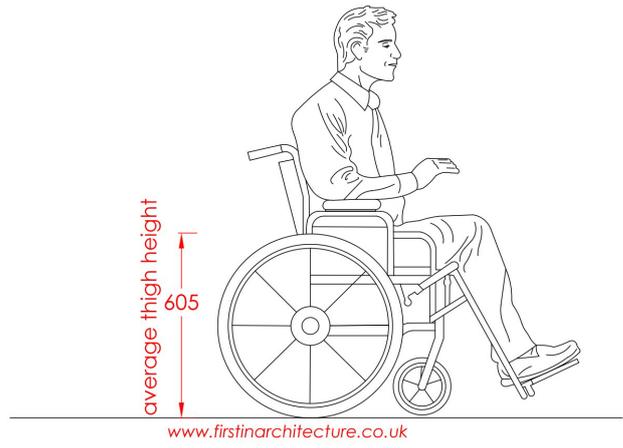
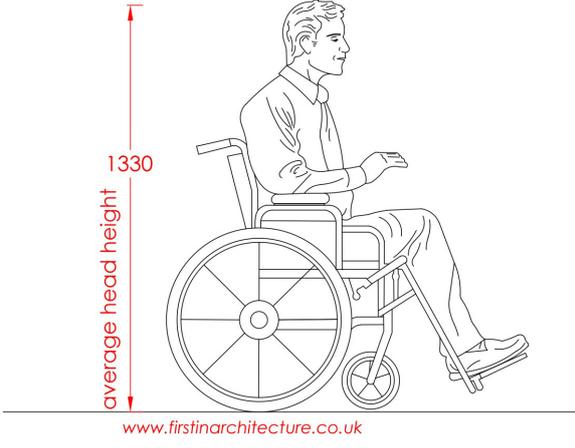
Wheelchair user man thigh height: 605mm

Wheelchair user man seat height: 485mm

Wheelchair user man knuckle height: 380mm

Wheelchair user man foot height: 145mm





# Average dimensions of woman in wheelchair

Wheelchair user woman high reach: 1575mm

Wheelchair user woman forward reach (over table): 510mm

Wheelchair user woman head height: 1255mm

Wheelchair user woman eye level: 1155mm

Wheelchair user woman shoulder height: 990mm

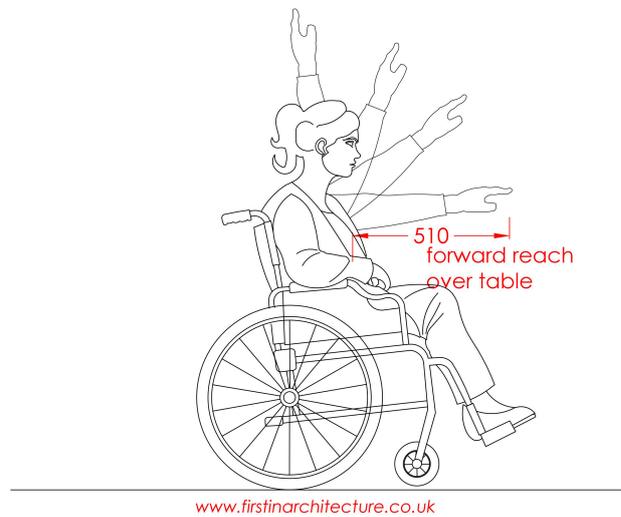
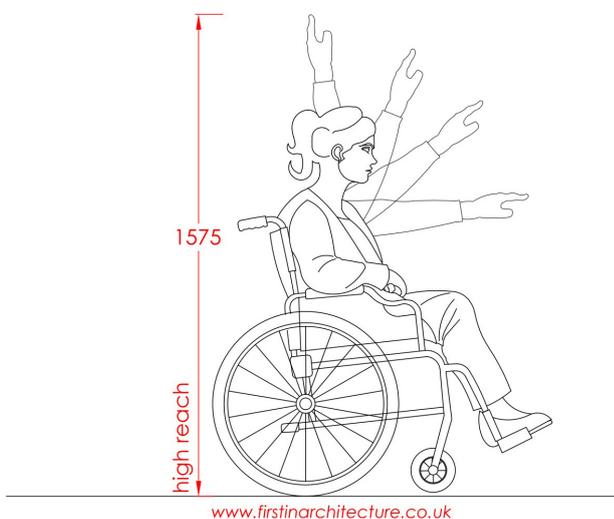
Wheelchair user woman elbow height: 690mm

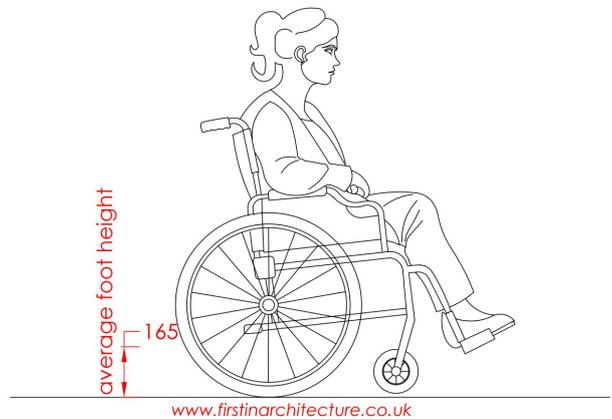
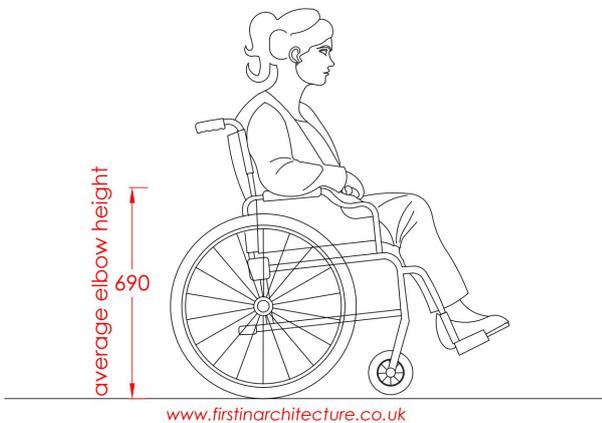
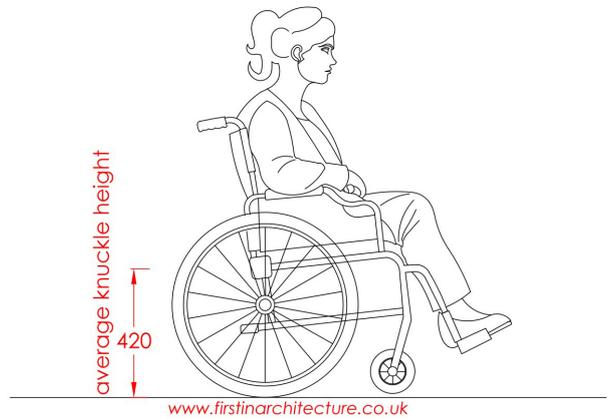
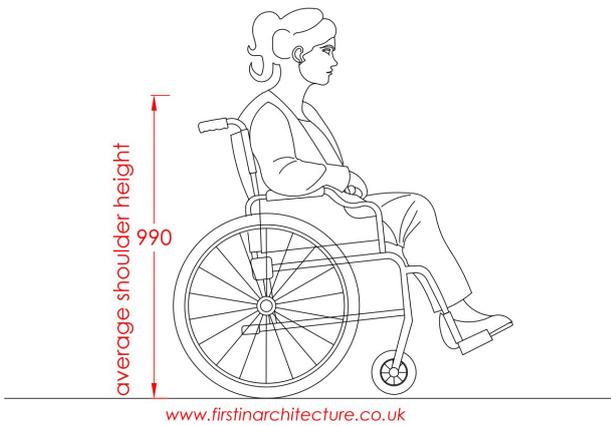
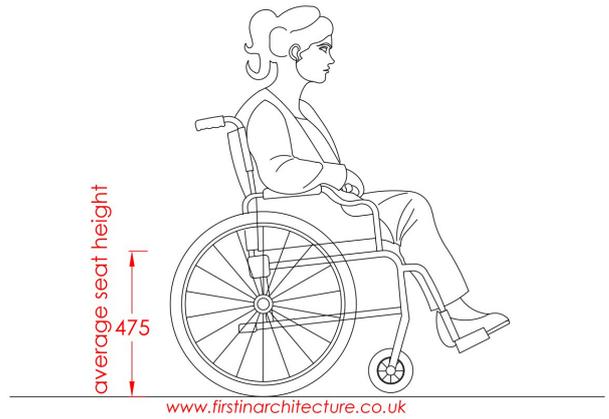
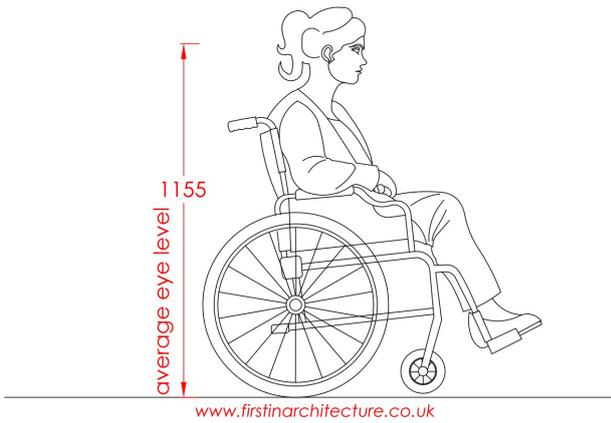
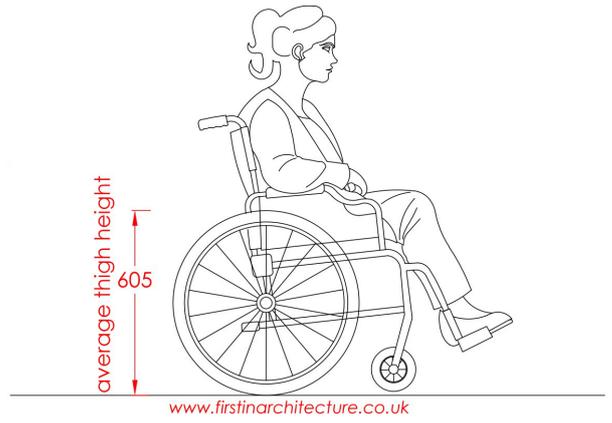
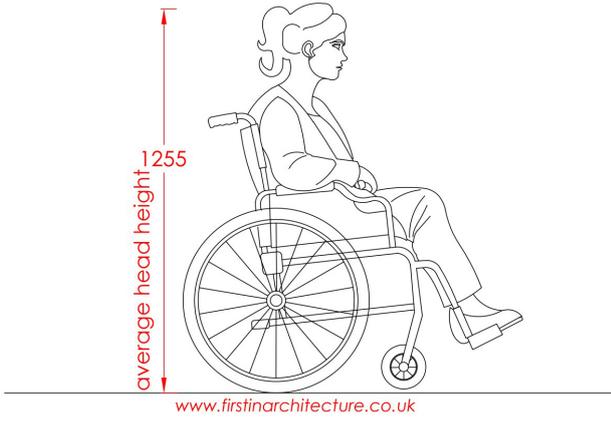
Wheelchair user woman thigh height: 605mm

Wheelchair user woman seat height: 475mm

Wheelchair user woman knuckle height: 420mm

Wheelchair user woman foot height: 165mm





Read the original post here:

<https://www.firstinarchitecture.co.uk/metric-data-03-average-dimensions-of-wheelchair-user>



# METRIC DATA 04: CIRCULATION AND SPACE

From FIRST IN ARCHITECTURE

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## Space requirements

### People next to each other

width one person: 625mm

two people next to each other: 1150mm

four people next to each other: 2250mm

### People in a queue

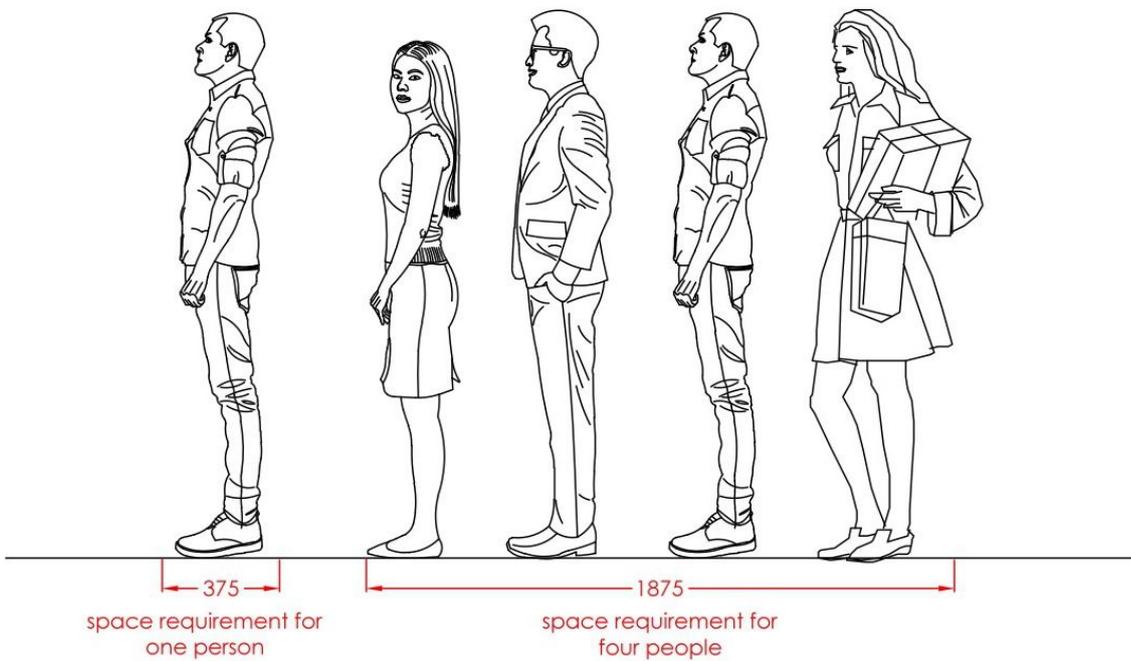
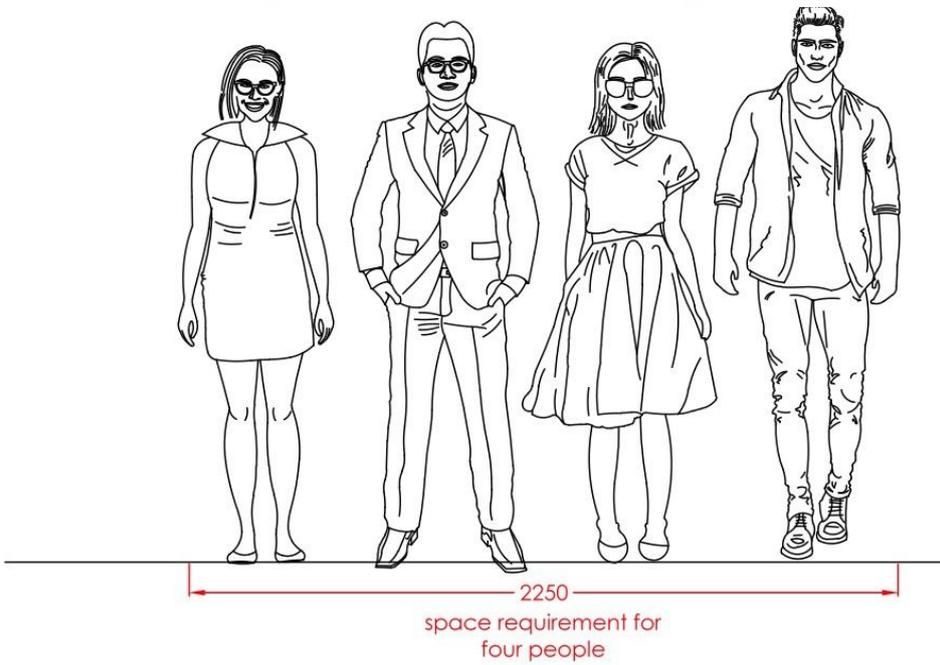
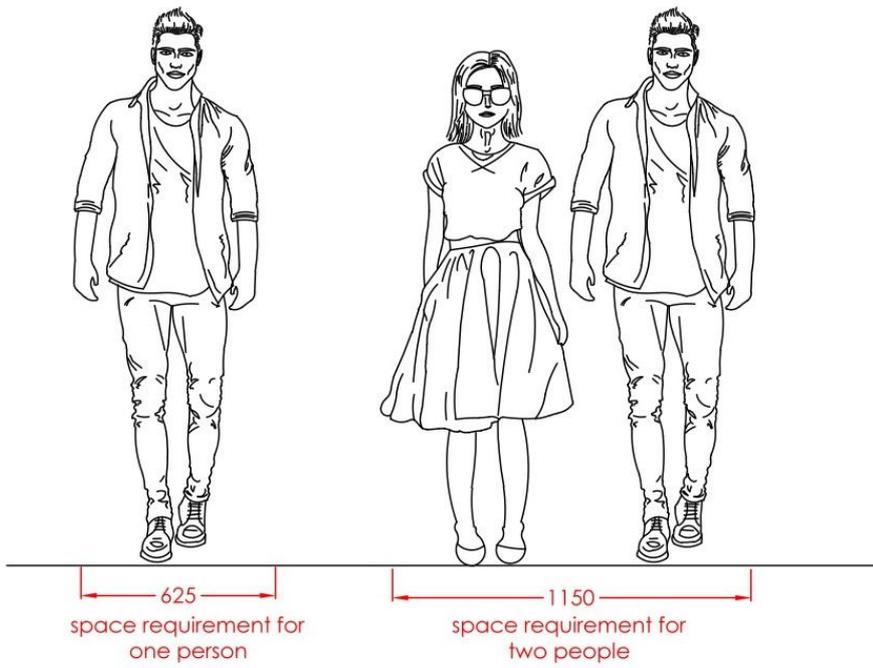
one person: 375mm

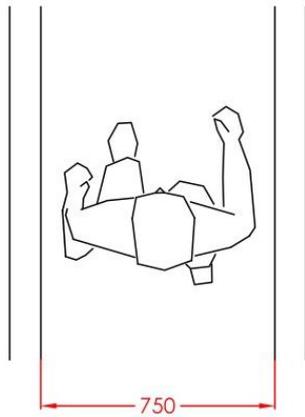
spaced queue four people: 1875mm

### Corridor widths

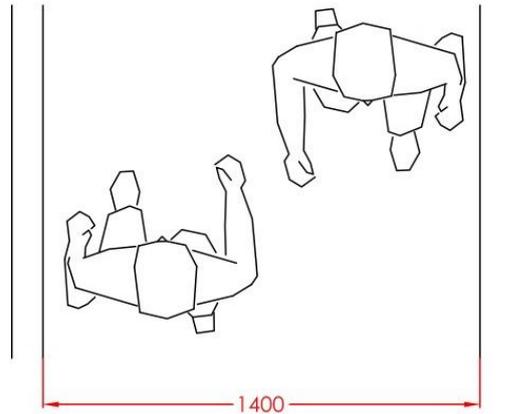
width for one person: 750mm

width for two people passing: 1400mm





recommended width for one person



recommended width for two people  
passing comfortably

## Average dimensions for wheelchair circulation

large wheelchair turning circle: 1700mm

medium wheelchair turning circle: 1500mm

small wheelchair turning circle: 1245mm

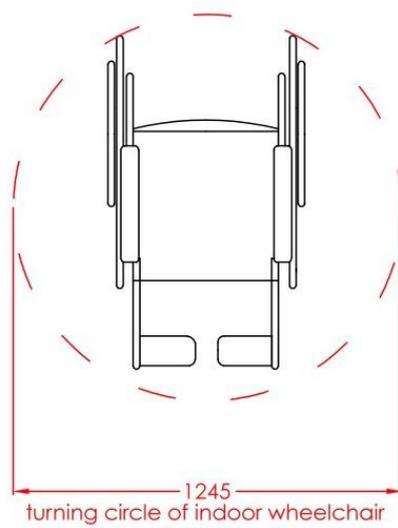
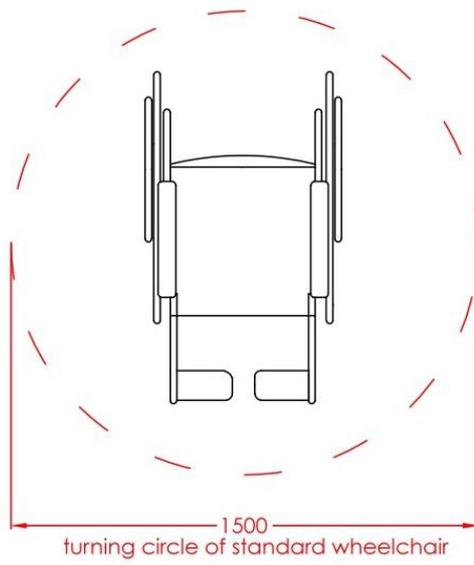
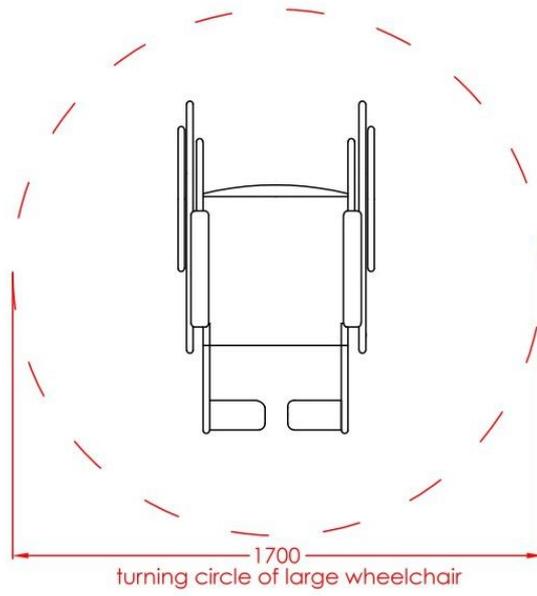
two wheelchairs passing: 1800mm

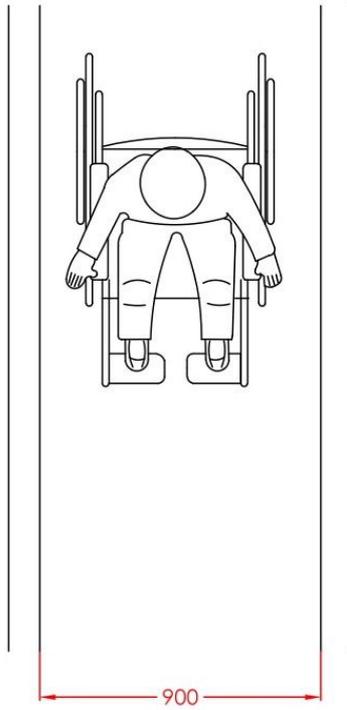
single wheelchair: 900mm

width of person with crutches: 840mm

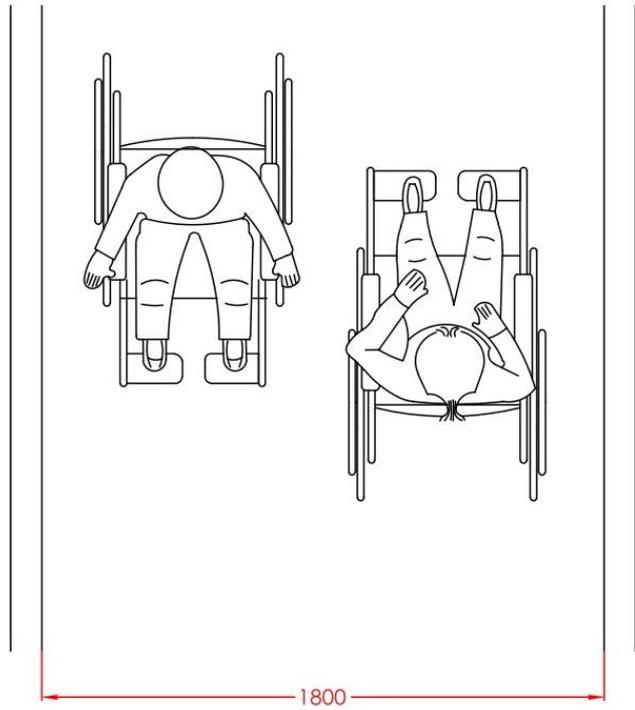
width of person with stick: 660mm

person with walking frame: 760mm

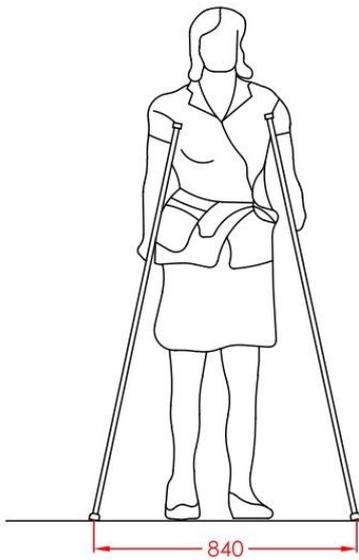




recommended width for self propelled wheelchair



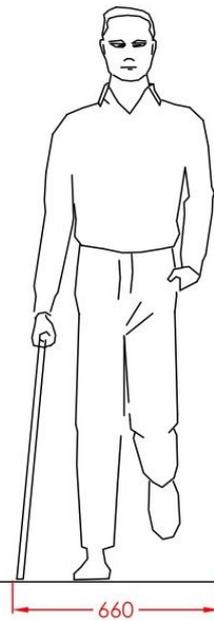
recommended width for self propelled wheelchairs passing



person with crutches



person with walking frame



person with walking stick

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<https://www.firstinarchitecture.co.uk/metric-data-04-circulation-and-space>



# METRIC DATA 05: APPROACH, ENTRANCE AND HORIZONTAL CIRCULATION

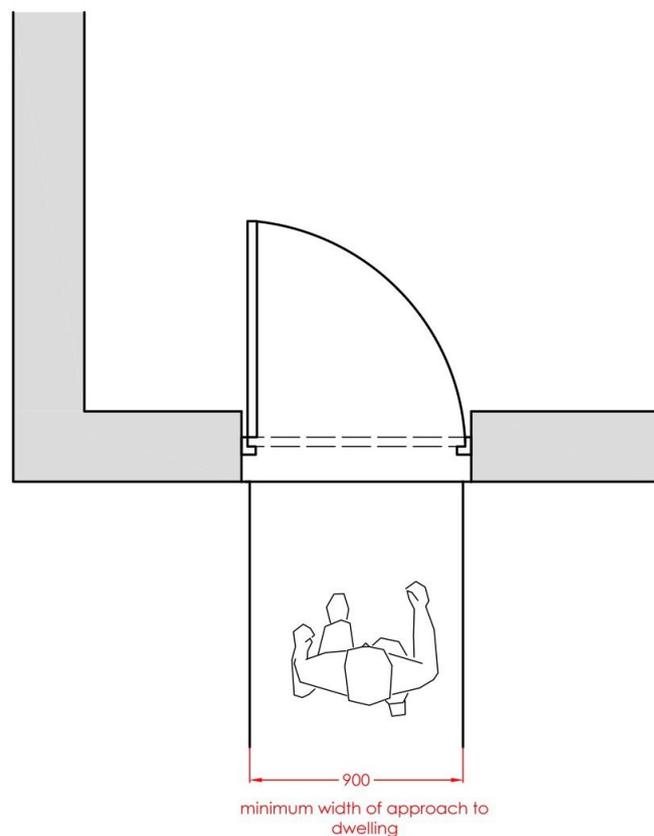
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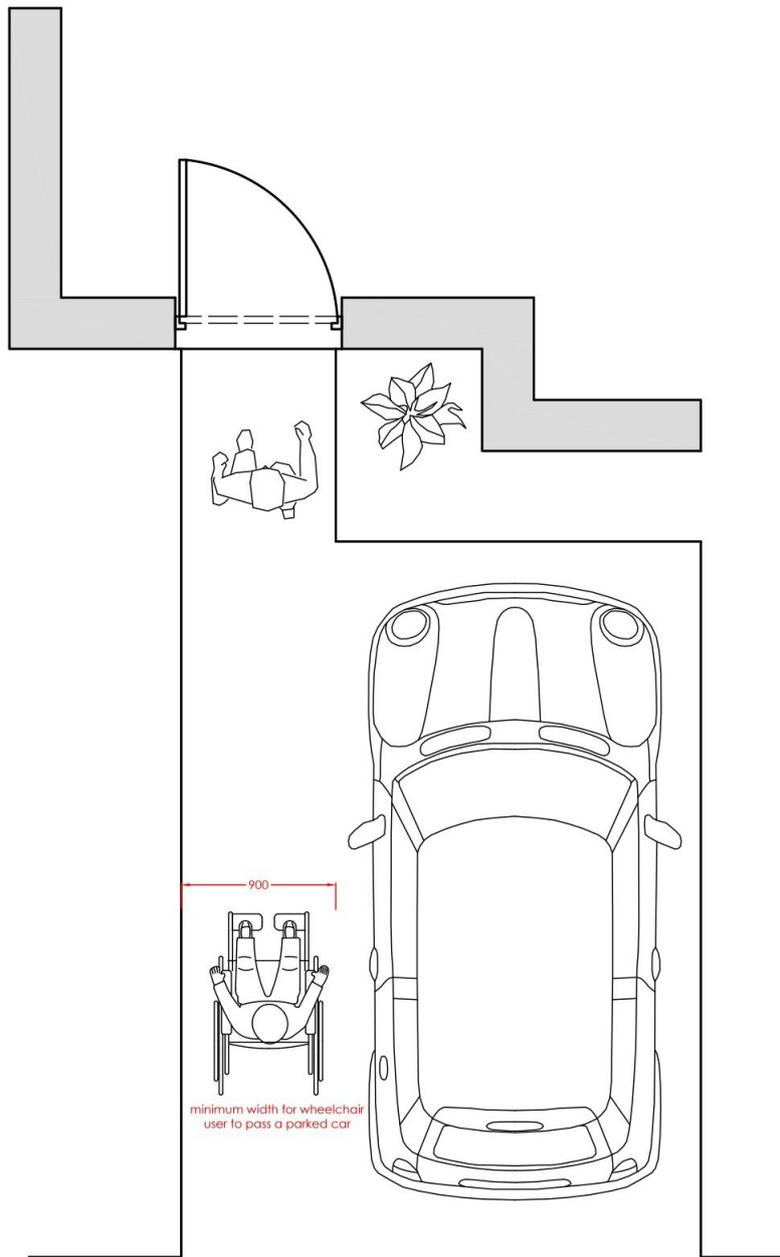
## Building Regs for visitable dwellings

The Building regulations will be met when a new dwelling makes reasonable provision for most people, including wheelchair users, to approach and enter the dwelling and is able to access sanitary facilities and habitable rooms on the ground floor or entrance storey. The following data is in accordance with the building regulations Part M for dwellings, category 1, visitable dwellings. Note there are different criteria for accessible dwellings and for wheelchair user dwellings.

### Approach to dwelling

- Route should be level, gently sloping or ramped
- Approach route minimum of 900mm wide with max cross fall of 1 in 40
- Where a driveway is the approach, a minimum of 900mm should be available for a wheelchair user to pass a parked car

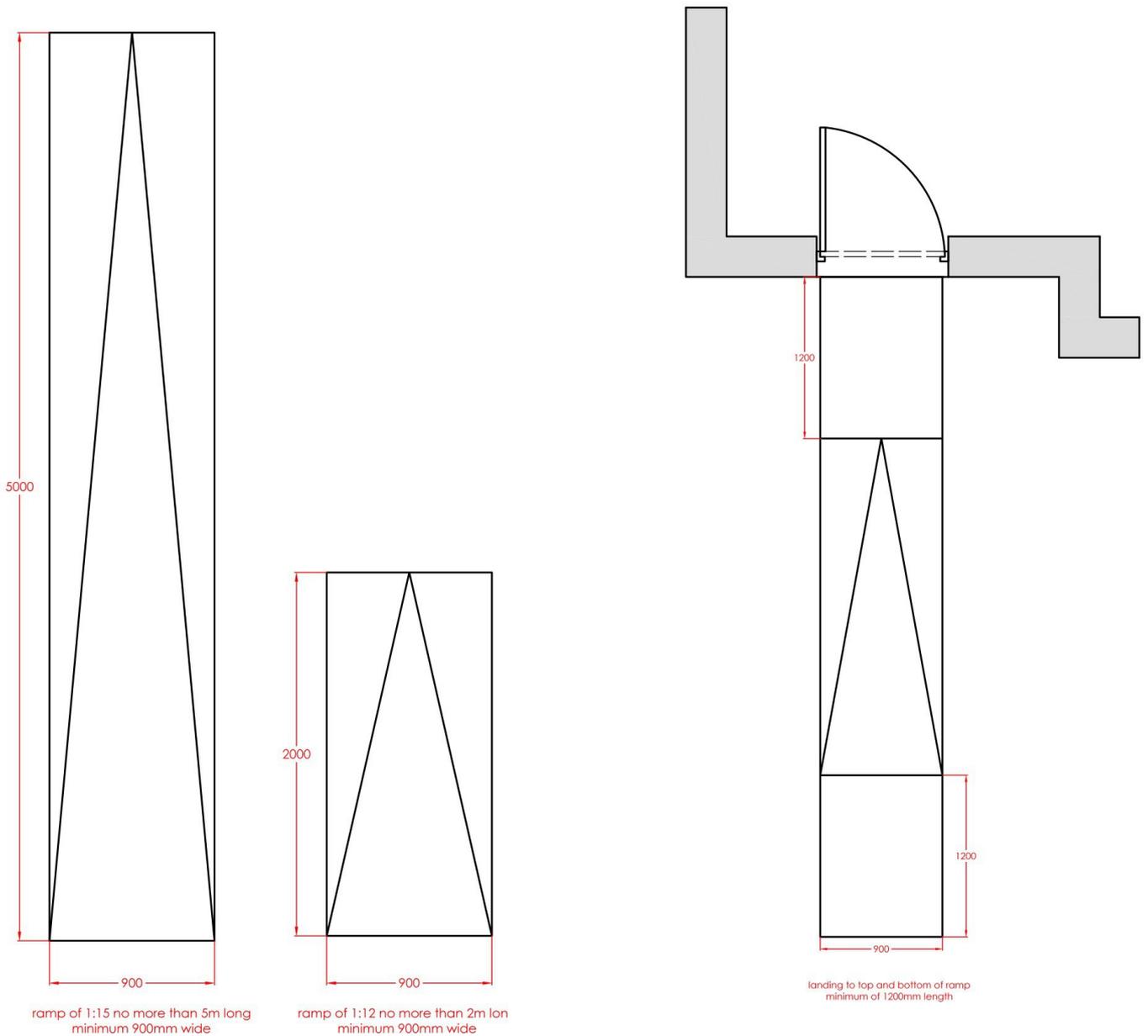




## Ramps

Individual flights of ramp:

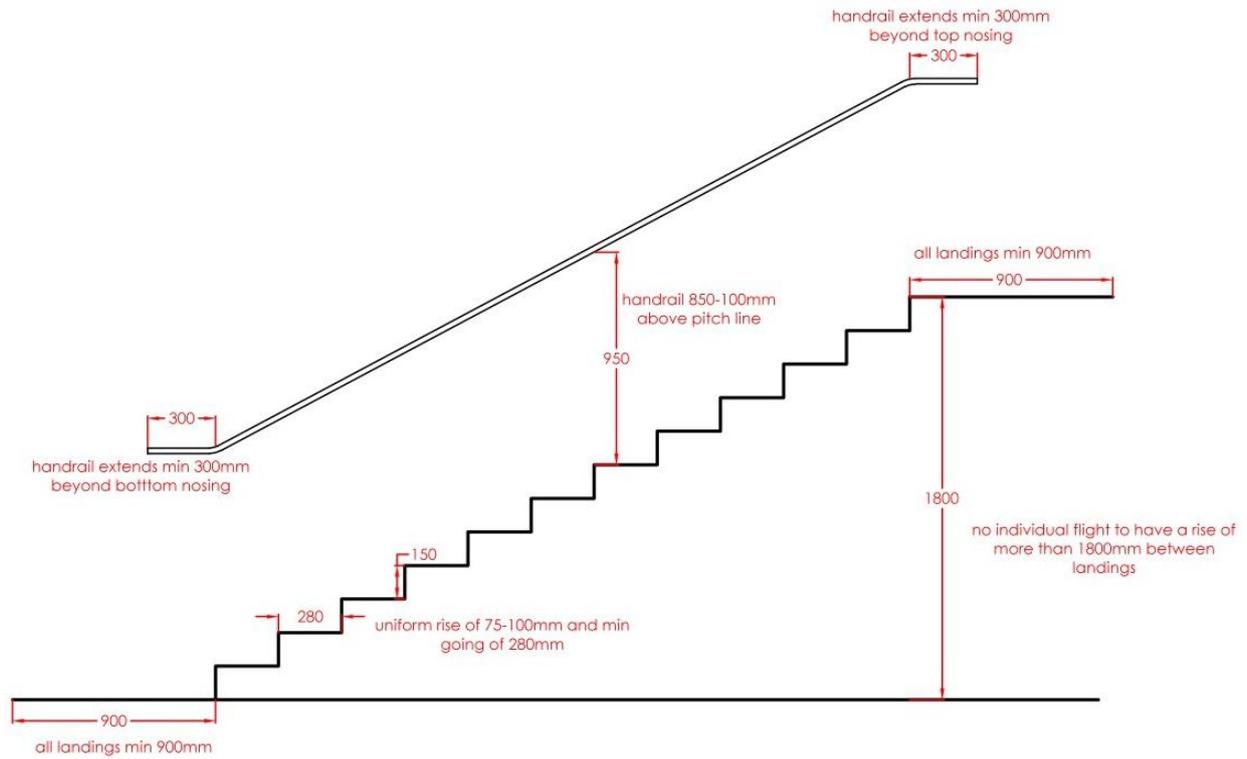
- 1:15 not more than 5m long
- 1:12 not more than 2m long
- Every ramp has minimum clear width of 900mm
- Every ramp flight has a top and bottom landing, with intermediate landing where required
- Every landing is minimum of 1200mm long clear of any swing of door or gate.



## Stepped access

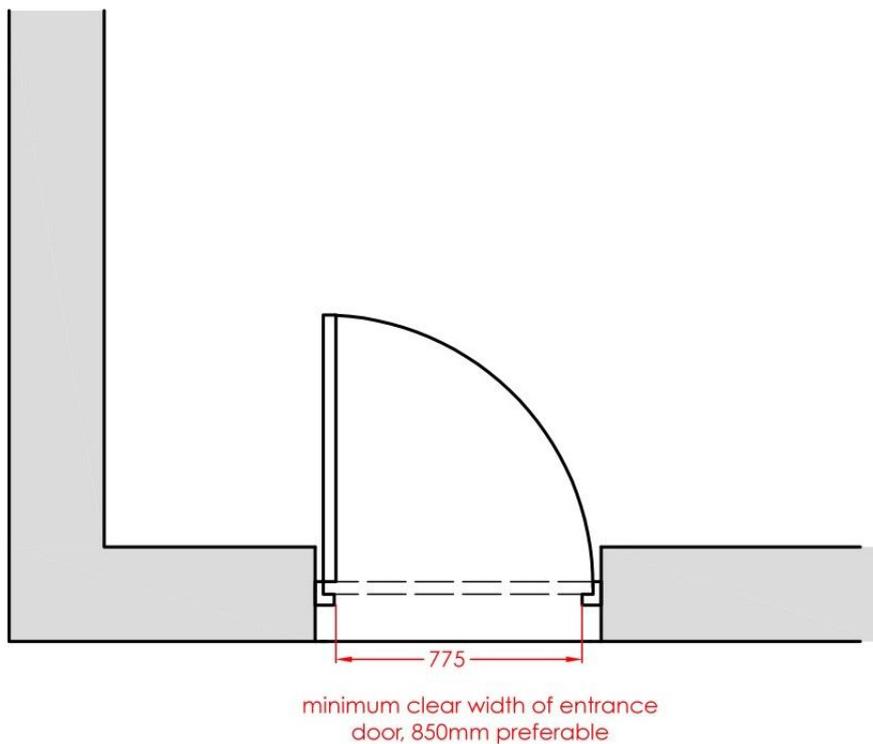
(where ramped approach is not possible)

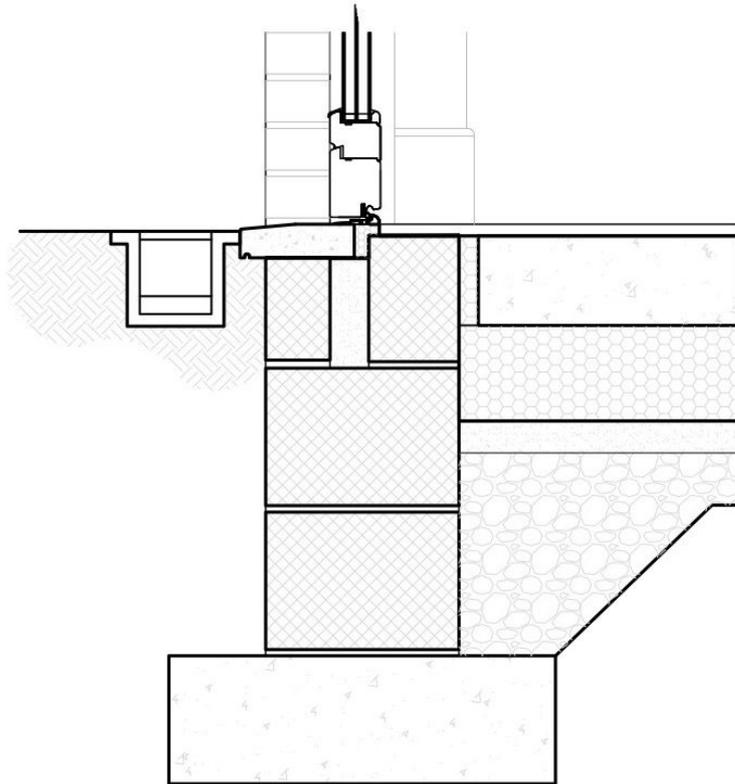
- Steps have a uniform rise of 75-150mm, and minimum going of 280mm
- No individual flight has a rise of more than 1800mm between landings
- Every flight has a minimum of 900mm clear width
- All landings, top, bottom and intermediate have a minimum length of 900mm
- Every flight with three or more risers has a handrail on one side. Handrail must be 850-1000 above the pitch line of the flight and extend a minimum of 300mm beyond the top and bottom nosings.



## Private entrances and space within the dwelling

- Entrance door has a minimum clear opening width of 775mm, 850mm preferable
- Any threshold is an accessible threshold

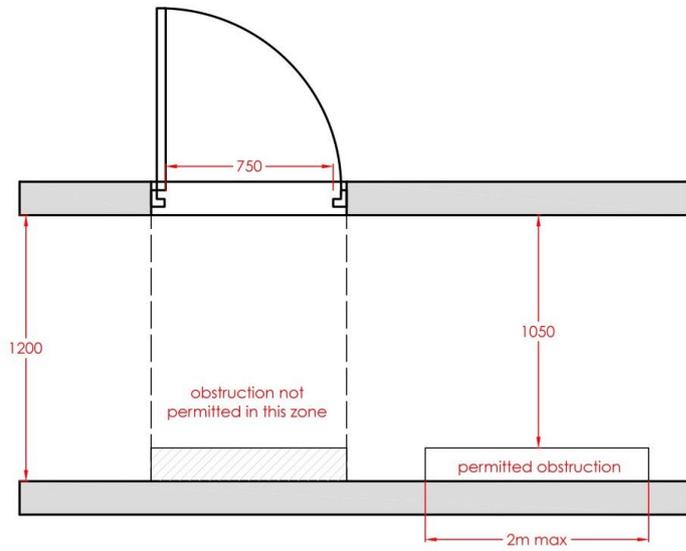




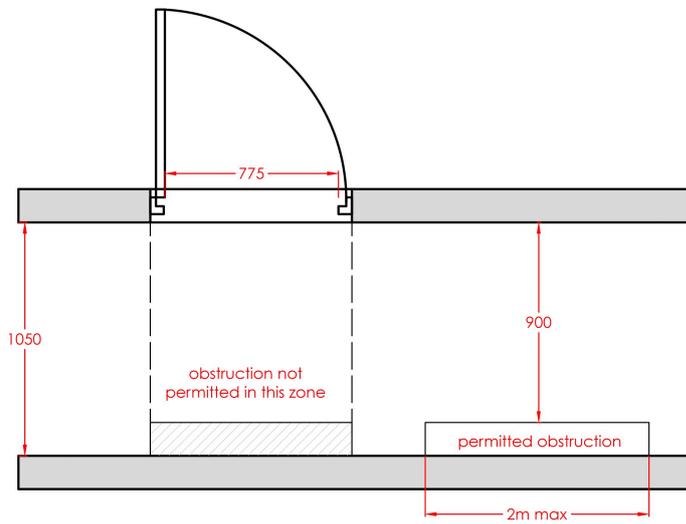
## Circulation and hallways

- Every door to a habitable room and a room containing the WC has a minimum clear opening width according to table
- Any obstruction, such as a radiator, does not occur opposite a doorway, and is no longer than 2m in length
- The corridor is not reduced to below a minimum of 750mm by an obstruction

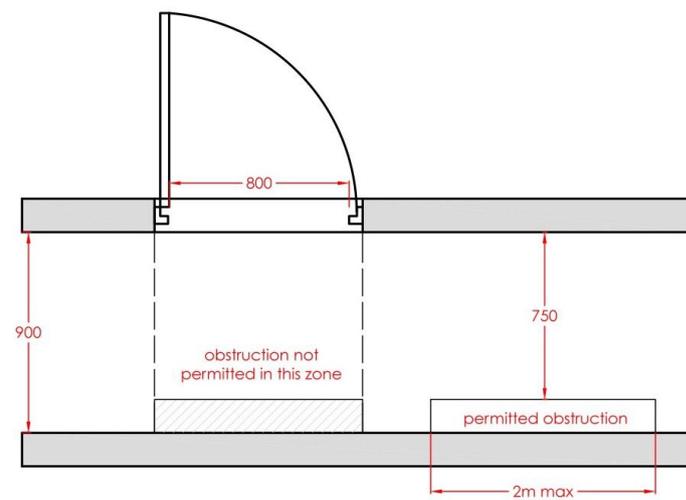
Doorway clear opening width (mm)	Corridor clear passageway width
750 or wider	900 (when approached head on)
750	1200 (when approach is not head on)
775	1050 (when approach is not head on)
800	900 (when approach is not head on)
Minimum widths of corridors and passageways for doorway widths	



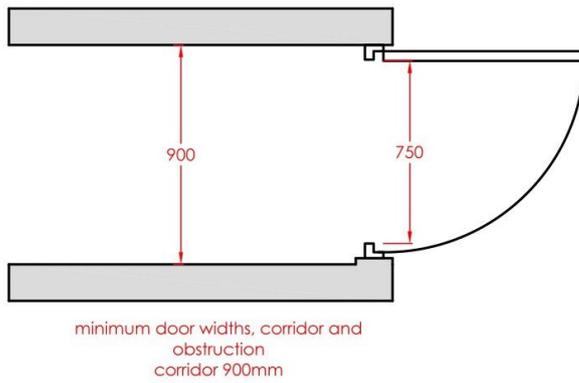
minimum door widths, corridor and obstruction  
corridor 1200mm



minimum door widths, corridor and obstruction  
corridor 1050mm

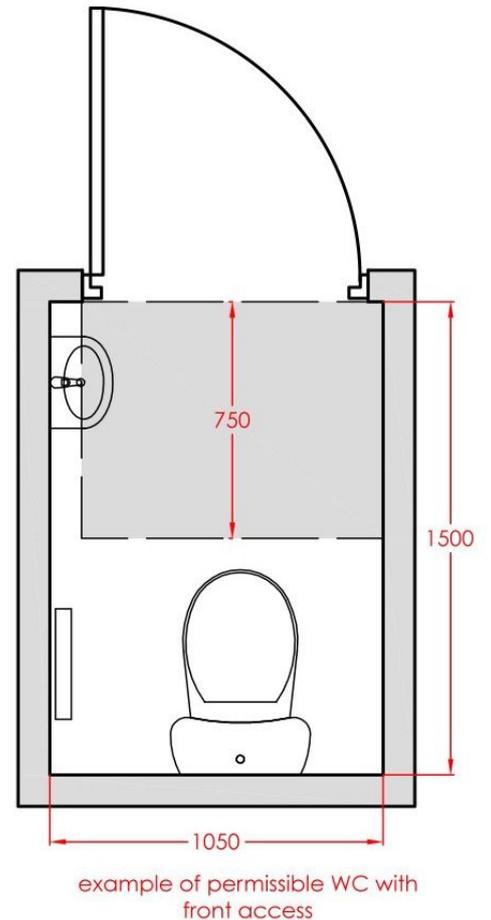
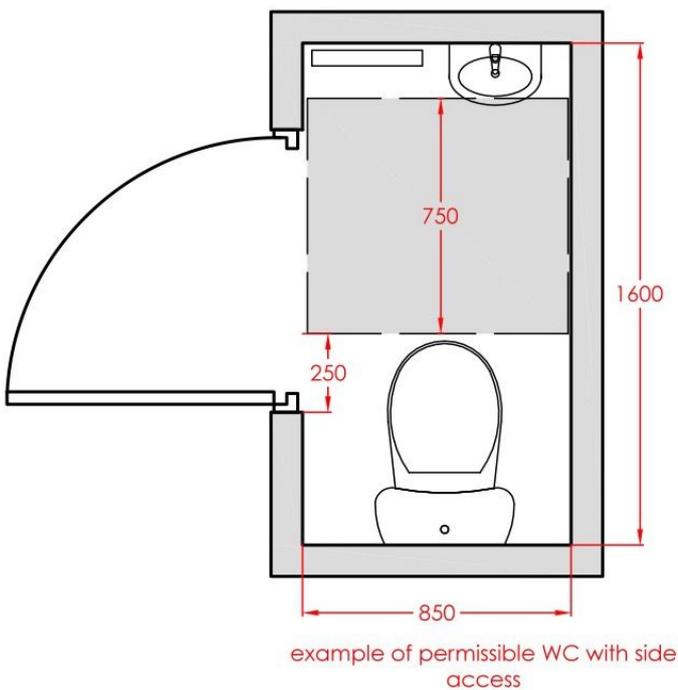


minimum door widths, corridor and obstruction  
corridor 900mm



## Sanitary facilities

- Enable easy access to a WC, on the entrance storey
- Clear space must be provided to access the WC
- Any basin is positioned so that it remains accessible
- Door to the WC opens outwards and has a clear opening width



Read the original post here:

<https://www.firstinarchitecture.co.uk/metric-data-05-approach-entrance-and-horizontal-circulation>



# METRIC DATA 06: WHEELCHAIR ACCESSIBLE DWELLING APPROACH, ENTRANCE AND HORIZONTAL CIRCULATION

From FIRST IN ARCHITECTURE

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In Metric Data 06 we look at the approach to dwellings, entrance and circulation for a wheelchair accessible dwelling. This includes details such as requirements for ramps, car parking and corridors. These dimensions are useful when planning spaces and developing designs.

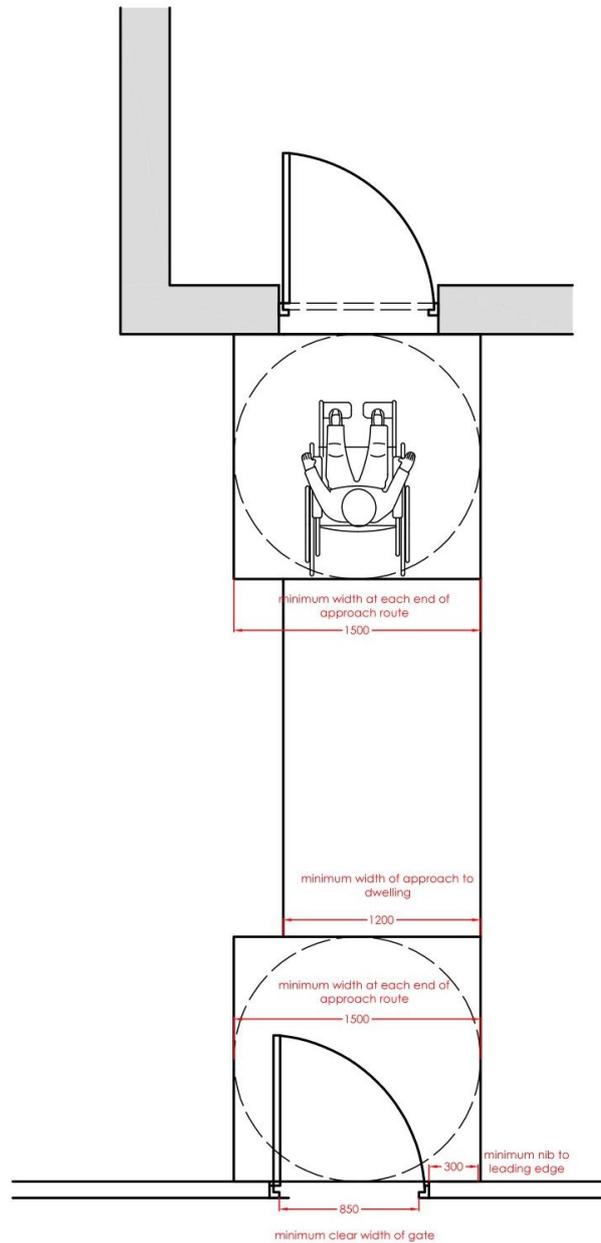
The following data is in accordance with the building regulations Part M for dwellings, category 3, Wheelchair user dwellings. Note there are different criteria for accessible dwellings and for visitable dwellings. These provisions only apply when a planning condition requires compliance for a wheelchair user dwelling. The provisions below are based on private dwellings with private access, and do not refer to communal entrances.

## Approach

The approach to an accessible dwelling must be step free, and at the shallowest gradient that can be achieved.

The following elements must be considered:

- The approach route must have a minimum clear width of 1200mm
- Any localised obstruction does not occur opposite or close to a doorway or at any change of direction
- A passing or turning area with a minimum width and depth of 1500mm is provided at each end of the approach route
- A suitable ground surface is chosen for the approach route
- Suitable lighting is specified for the approach route to ensure the route is illuminated from dusk to dawn
- Any gate has a minimum clear opening width of 850mm, a minimum 300mm nib to the leading edge and 200mm nib to the following edge.



## Ramps for wheelchair access

Any internal or external ramp must comply with the following points:

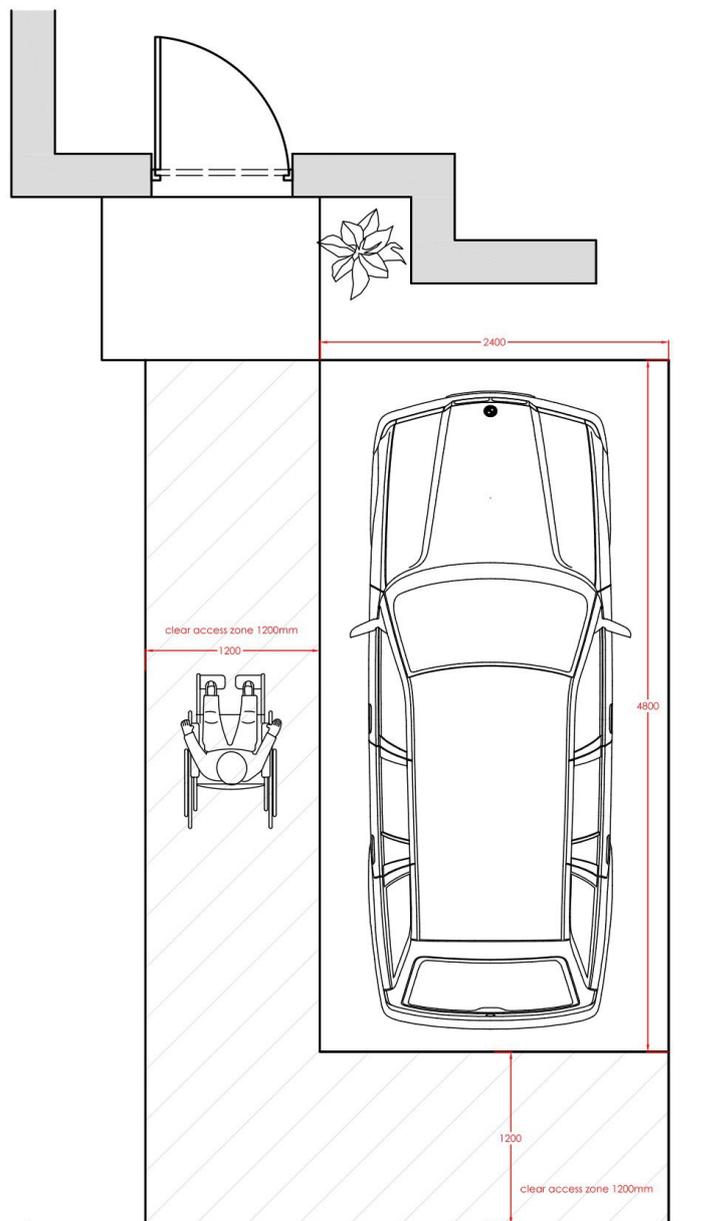
- Gradient between 1:20 and 1:15
- Length of flight must meet requirements of following graph (see below)
- Flights have a minimum clear width of 1200mm
- Landings are provided at the top and bottom of every flight
- A landing is provided at any change of direction and between individual flights
- Every landing is level and 1200mm min clear of any door swing



## Car Parking

A parking space must enable a wheelchair user to get into and out of the vehicle from both sides, and access to the boot space. The parking space must meet the following requirements:

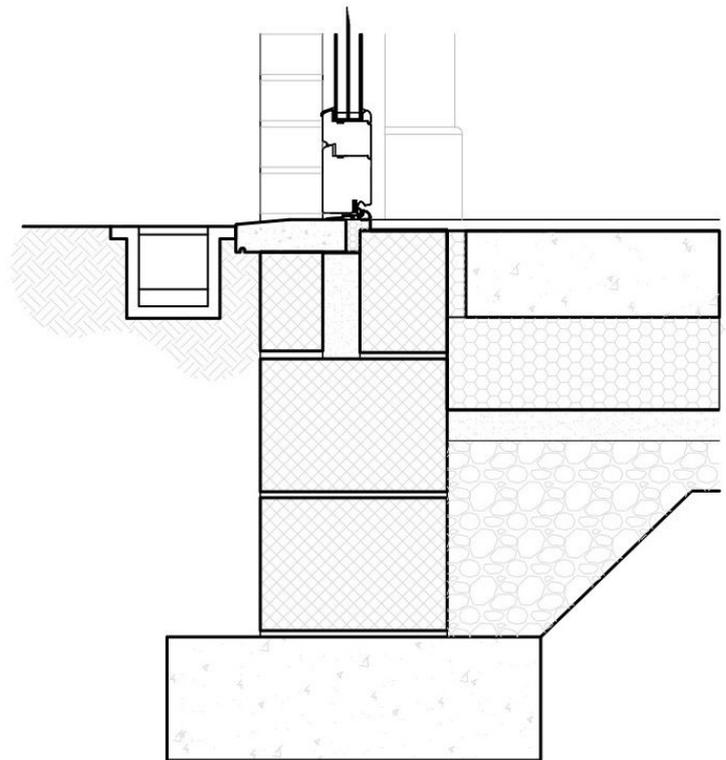
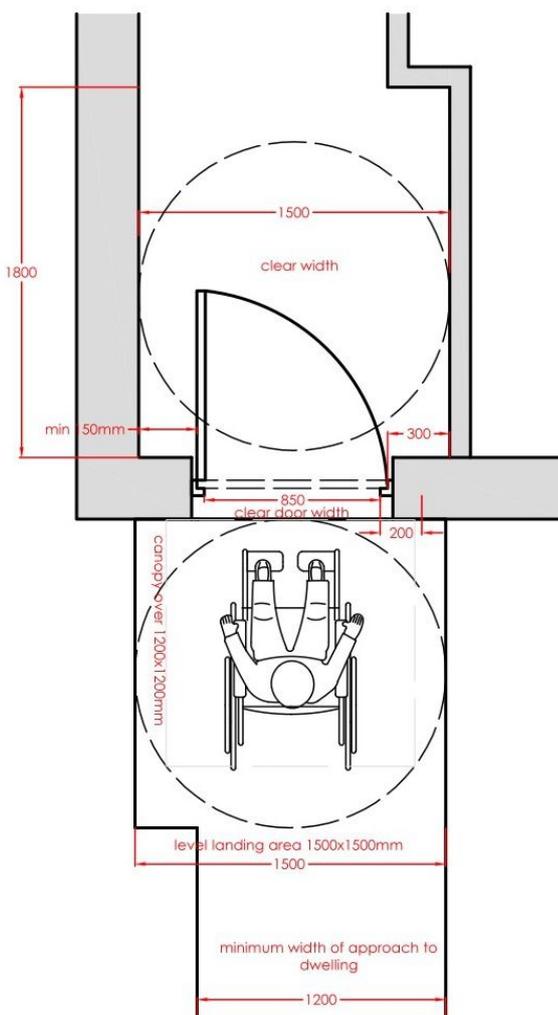
- A clearance zone of 1200mm to one side and the rear of a standard parking bay
- (In communal parking areas it must have 1200mm clear access zone both sides.)
- The parking space must be level and have a suitable ground surface for a wheelchair user.



# Entrances

A principal private entrance to an individual dwelling must comply with the following:

- There must be a level external landing with a minimum width and depth of 1500mm clear of any door swing.
- The landing must be covered to a minimum of 1200mm width and depth to offer protection
- The area must be sufficiently lit from dusk till dawn, either by a motion sensor or timer.
- There must be a clear turning circle of 1500mm inside the entrance area in front of the door.
- A minimum nib of 300mm must be provided to the leading edge of the door and must continue for 1800mm beyond it. A minimum nib of 150mm must be provided on the hinge side of the door.
- The door must have a minimum clear opening width of 850mm.
- The threshold is an accessible threshold.
- If there is a lobby the doors must be a minimum of 1500mm apart and a minimum of 1500mm between door swings.
- Any door entry controls must be mounted between 900-1000mm above finished ground level and a minimum of 300mm away from any external return corner.

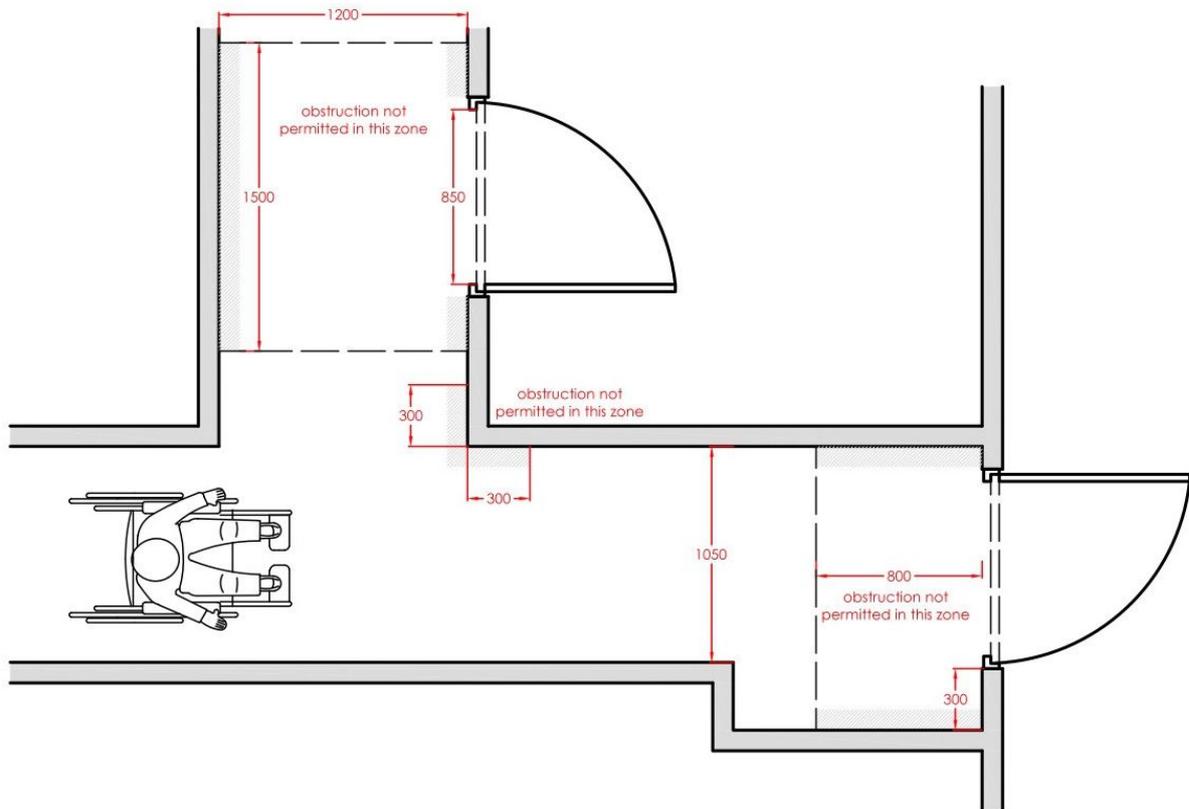


# Circulation Areas

## Hall and door widths

Internal halls and doors must comply with the following requirements:

- A minimum clear width of 1050mm is required for every hall, approach or landing.
- If an approach to a door way is not head on, the minimum clear width is 1200mm.
- Any obstruction, such as a radiator, must be no longer than 2m in length and not occur close to a doorway or change in direction.
- Every door has a minimum clear opening width of 850mm.
- A minimum 300mm nib is provided to the leading edge of every door.
- A minimum 200mm nib is provided to the following edge of every door.



Read the original post here:

<https://www.firstinarchitecture.co.uk/metric-data-06-wheelchair-accessible-dwelling>



# METRIC DATA 08:

## STANDARD FURNITURE SIZES

From FIRST IN ARCHITECTURE

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### Introduction

In this metric data post we will be looking at standard furniture sizes. To make it more useful, we have put together a reference PDF with all of the sizes that you can download for free. On top of that you can get all of the CAD drawings that are featured in this post from our shop for a small fee.

In this post we explore standard furniture sizes for bedrooms, dining rooms and living rooms. Examples being sofas, tables, dining tables, beds, storage and so on.

In the next post we will look at other areas of a residential building and the standard sizes associated with the remaining rooms.

The sizes below are suggestions, and of course, furniture comes in many different sizes - but this is a good starting point and guide. It is especially useful if you have the cad drawings to drag and drop directly into your floor plans.

### Living Room

Armchair: 900mm x 950mm

Two seater sofa: 1500mm x 950mm

Three seater sofa: 2100mm x 950

Coffee table small: 750mm x 750mm

Coffee table large: 1000mm x 500mm

Round coffee table: 750 mm diameter

Desk: 1500mm x 750mm

Office chair: 450mm x 500mm

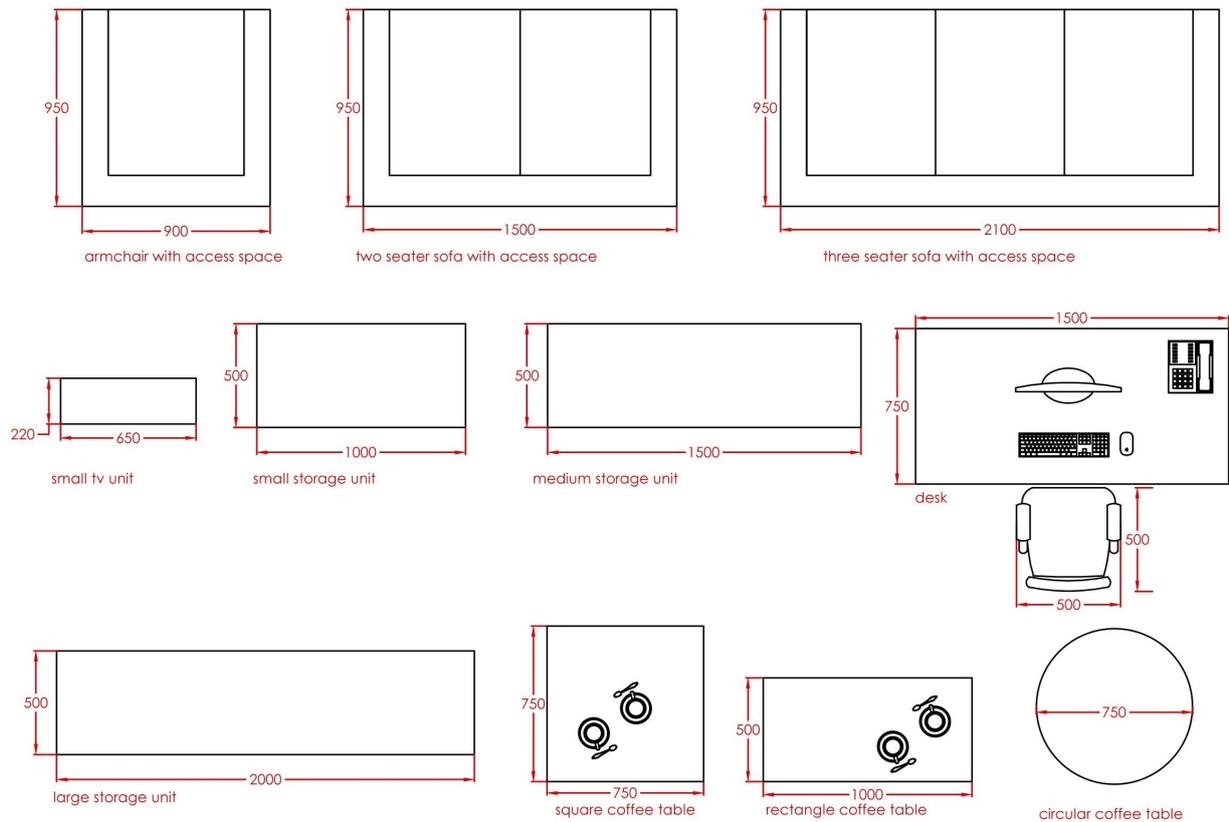
Small TV unit: 220mm x 650mm

Small storage unit: 500mm x 1000mm

Medium storage unit: 500mm x 1500mm

Large storage unit: 500mm x 2000mm

## living room

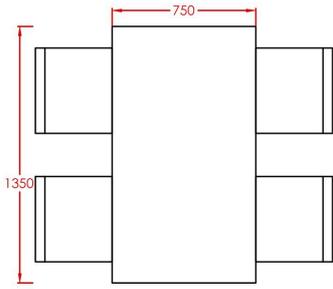


## Dining Room

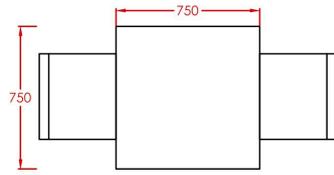
Dining table for 10: 2600mm x 900mm  
Dining table for 8: 1950mm x 900mm  
Dining table for 6: 1500mm x 900mm  
Round dining table for 6: 1200mm diameter

Round dining table for 4: 1100mm diameter  
Dining table for 4: 100mm x 100mm  
Dining table for 4: 1350mm x 750mm  
Dining table for 2: 750mm x 750mm

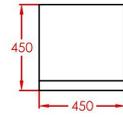
dining room



dining table for 4



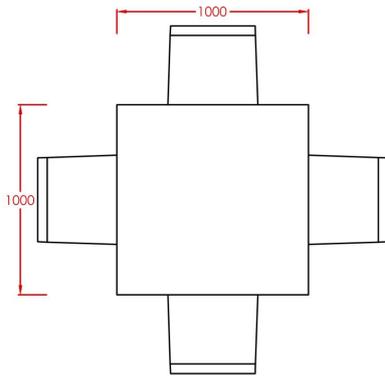
dining table for 2



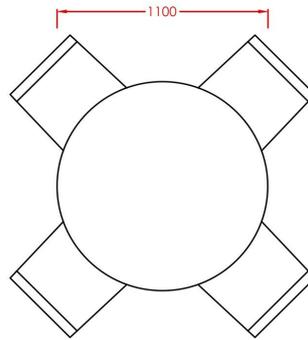
dining chair



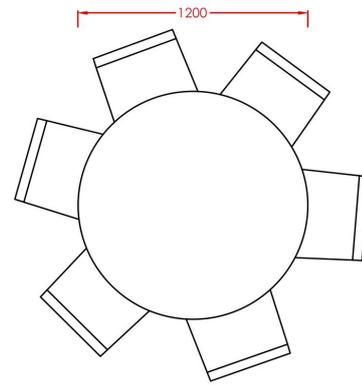
bar stool



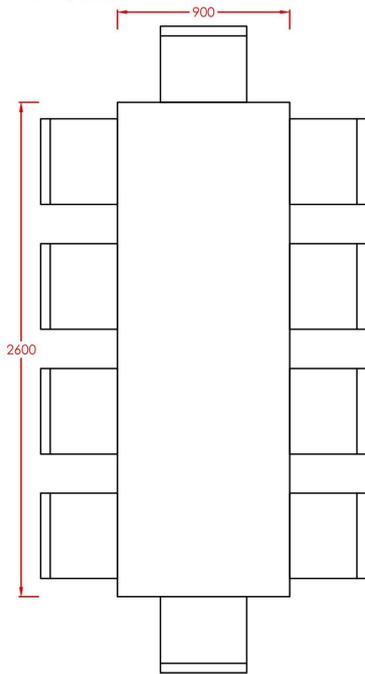
dining table for 4



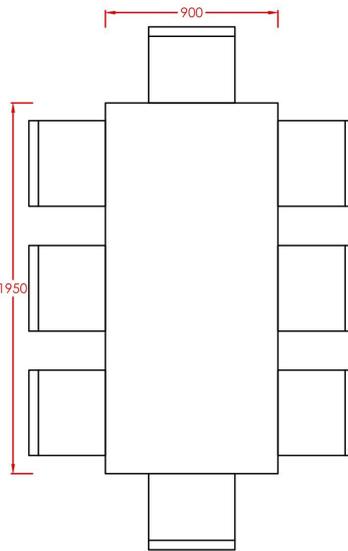
round dining table for 4



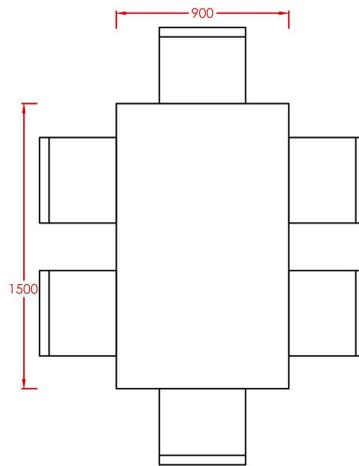
round dining table for 6



dining table for 10



dining table for 8



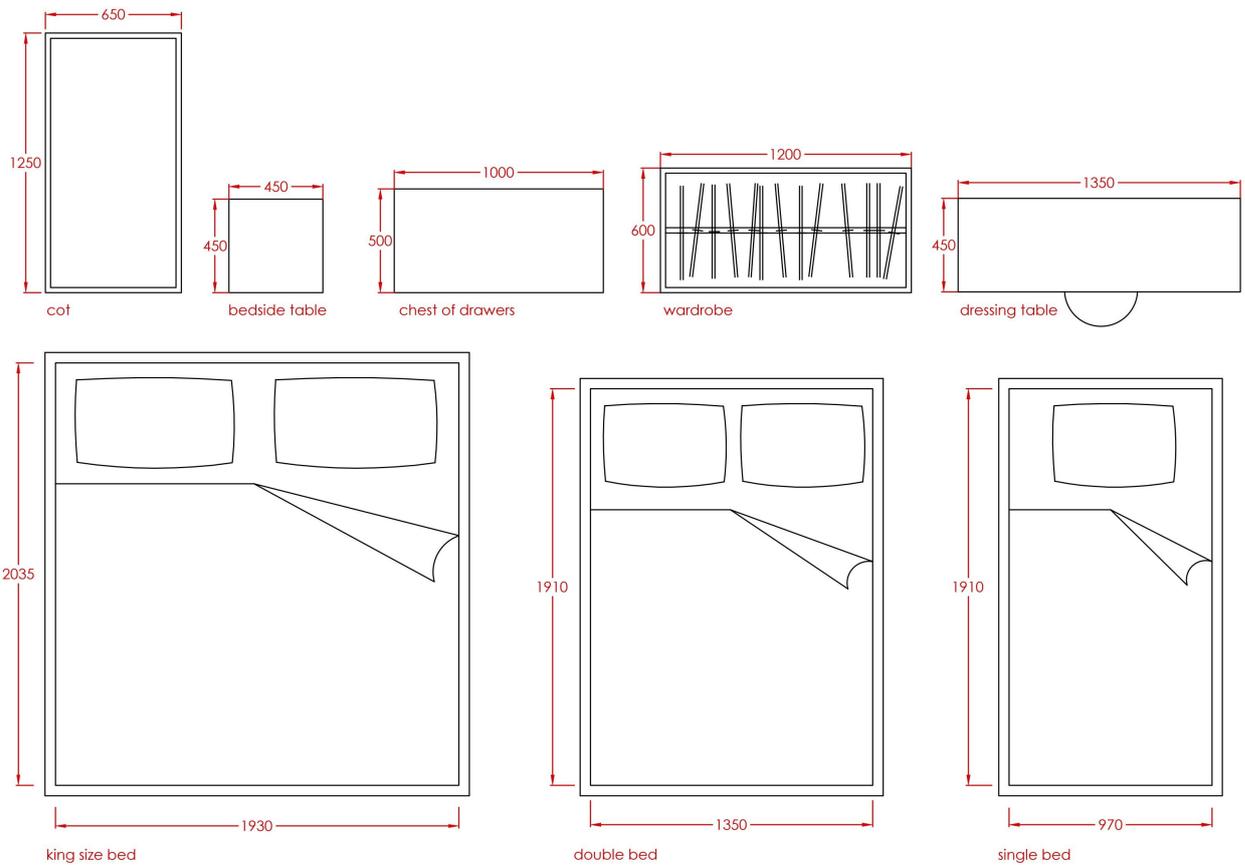
dining table for 6

# Bedroom

Single bed: 970mm x 1910mm  
Double bed: 1350mm x 1910mm  
King size bed: 1930mm x 1910mm

Bedside table: 450mm x 450mm  
Chest of drawers: 1000mm x 500mm  
Wardrobe: 1200mm x 600mm  
Dressing table: 1350mm x 450mm  
Cot: 650mm x 1250mm

## bedroom



Read the original post here:

<https://www.firstinarchitecture.co.uk/metric-data-08-standard-furniture-sizes>



# METRIC DATA 09: KITCHEN STANDARD SIZES

From FIRST IN ARCHITECTURE

## Introduction

In this metric data post we will be looking at standard kitchen layouts and sizes. To make it more useful, we have put together a reference PDF with all of the sizes that you can download for free. On top of that you can get all of the CAD drawings that are featured in this post from our shop for a small fee.

In this post we explore standard kitchen information for units, appliances, layouts and more.

The sizes below are suggestions, and of course, kitchens come in many different sizes - but this is a good starting point and guide. It is especially useful if you have the cad drawings to drag and drop directly into your floor plans.

## Standard Kitchen Unit Sizes

Standard depth of kitchen unit: 600mm

Standard height of kitchen unit: 900mm

Standard widths of kitchen units:

300mm, 400mm, 500mm, 600mm, 800mm, 1000mm, 1200mm

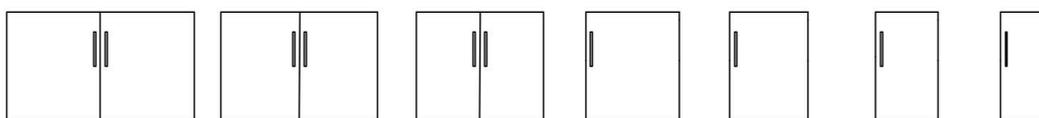
Standard depth of wall cupboard: 300mm to 350mm

Standard height of wall cupboard: 400mm to 700mm

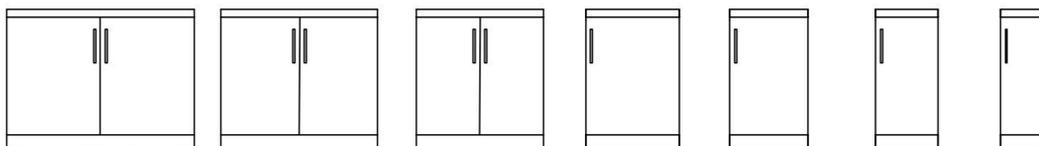
Standard widths of kitchen wall cupboards:

300mm, 400mm, 500mm, 600mm, 800mm, 1000mm, 1200mm

### Standard unit widths and depths



Wall units elevation



Base units elevation



Base units plan

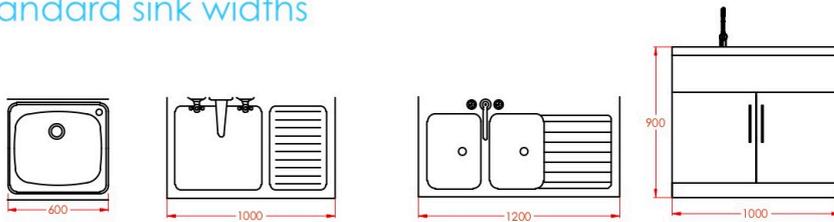
# Standard Kitchen Sink Sizes

Small kitchen sink: 500mm depth x 600mm width

Mid kitchen sink: 500mm depth x 1000mm width

Large kitchen sink: 500mm depth x 1200mm width

## Standard sink widths



# Appliances

## Standard Fridge Sizes

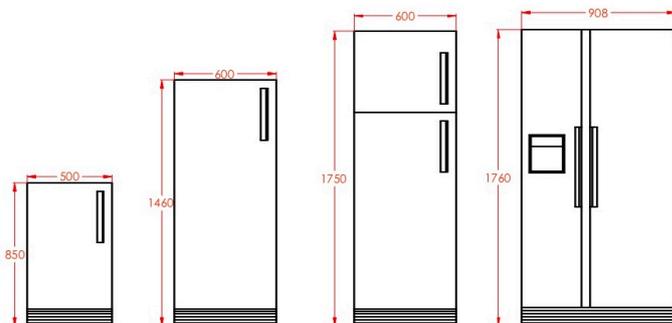
Small fridge size: 500mm wide x 850mm high

Mid fridge size: 600mm wide x 1460mm high

Tall fridge size: 600mm wide x 1750mm high

Double fridge: 908mm wide x 1760mm high

## Appliances - Standard fridge widths and heights



## Standard ovens and hobs

Single freestanding oven size: 600mm wide x 900mm high

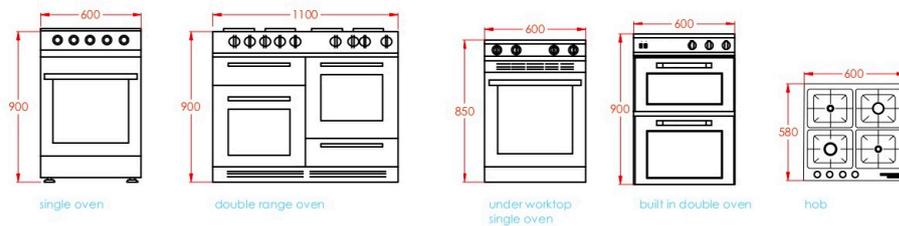
Double range oven size: 1100mm wide x 900mm high

Under worktop single oven size: 600mm wide x 850mm high

Built in double oven size: 600mm wide x 850mm high

Hob size: 600mm wide x 580mm depth

### Appliances - Standard ovens and hobs



## Other appliances

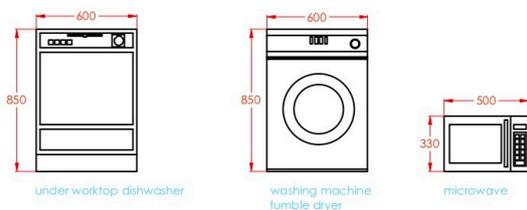
Under worktop dishwasher size: 600mm wide x 850mm high

Washing machine size: 600mm wide x 850mm high

Tumble dryer size: 600mm wide x 850mm high

Microwave size: 500mm wide x 330mm high

### Appliances - Other



# Kitchen Design Rules of thumb

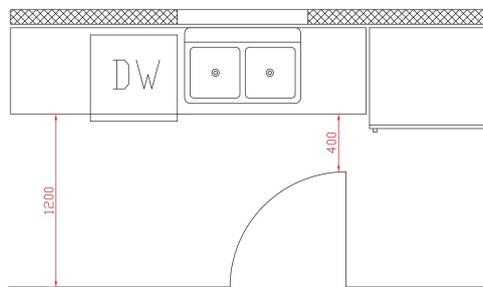
There are some fundamental design principles when it comes to planning your kitchen that should be considered. These rules of thumb should help you avoid potential awkward spaces, and poor functionality.

## Rule 1 – Kitchen door clearance

Ensure there is at least 400mm clearance between a kitchen door and the nearest units. This essentially means allowing for 1200mm between the units and the wall with the door.

If you are planning a narrow galley style kitchen, and the room is less than 1800mm wide, you cannot comfortably use a standard 600mm deep unit. You may need to use bespoke (however this would affect appliances) – or reconsider your design.

### Rule 1 - Kitchen Door Clearance

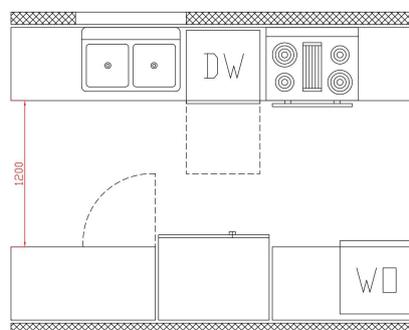


## Rule 2 – Distance between units

Allow a minimum 1200mm clearance between runs of units. Most doors open up to around 600mm, i.e. dishwasher, oven door, unit door so a minimum of 1200mm will allow people to pass when their doors are open.

A distance of 1500mm between units will allow two people to pass with ease when the doors are closed.

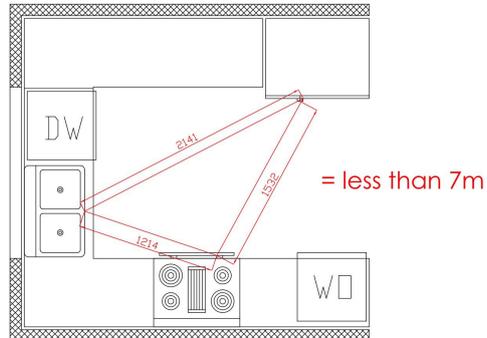
### Rule 2 - Distance between units



### Rule 3 – Work triangle

Try to keep the work triangle to a distance of 7 metres or less, this allows for a comfortable working distance.

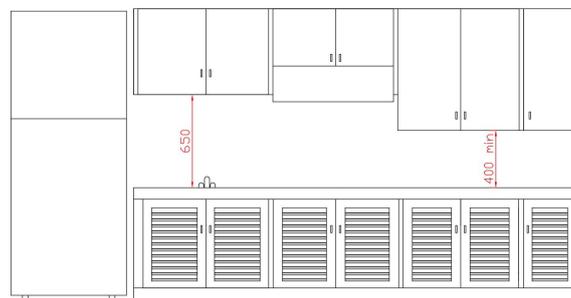
Rule 3 - Work triangle



### Rule 4 – Clearance between worktop and wall mounted cabinet

Allow for at least 400mm clearance between the worktop and wall mounted cupboard, to ensure there is sufficient working space below the cupboard on the worktop.

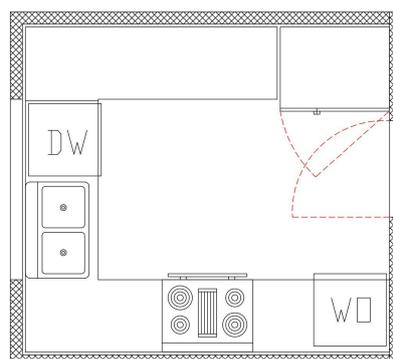
Rule 4 - Wall mounted cabinet



### Rule 5 – Door Interference

Ensure no entry doors or appliance doors interfere with one another.

Rule 5 - Door interference



## Rule 6 – Distance behind seating

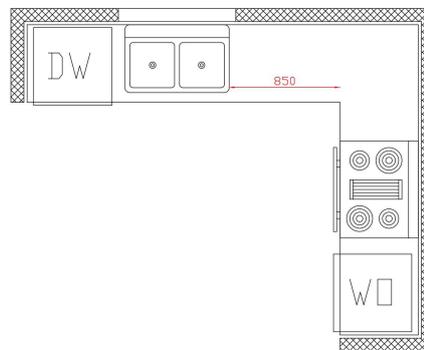
Ensure you provide enough space behind a seated diner to allow traffic to pass. The minimum clearance from the table or counter to any wall or other obstruction behind the seating area is 800mm.

If someone is to walk past, a distance of 1100mm should be provided. For a wheelchair to comfortably move past the seated diner a distance of 1500mm should be provided.

## Rule 7 – Food preparation and work area

Allow a minimum of 800mm width worktop next to a sink for food preparation and work area.

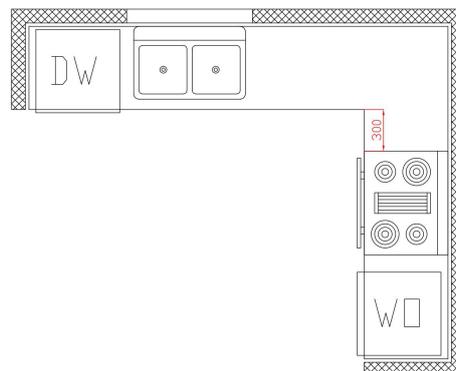
Rule 7 - Food preparation and work area



## Rule 8 – Cooking surface

Allow a minimum of 300mm either side of the hob to ensure suitable work space either side of the cooking area. Also ensure that there is a non combustible surface above the hob and a clearance of at least 600mm.

Rule 8 - Cooking surface



## Rule 9 – Traffic

Your kitchen should not be a main thoroughfare to the rest of the house. Make sure traffic does not cross the kitchen work triangle.

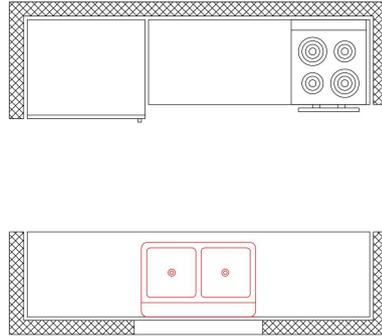
## Rule 10 – Don't break up the workspace

Aim to keep things flowing, don't place a full height cabinet or appliance between any two of the major work centres.

## Rule 11 – Place the sink in the centre

The sink should ideally be positioned in the centre of the work triangle as it is the most used area of the kitchen.

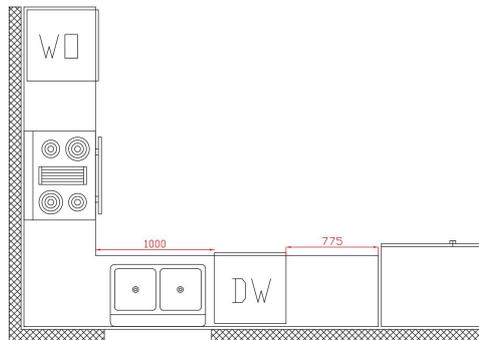
### Rule 11 - Place the sink in the centre



## Rule 12 – Dishwashers

When positioning your dishwasher, ensure it is at least 500mm from a corner, to allow loading from both sides. Also ensure there is standing space in front of the dishwasher for unloading.

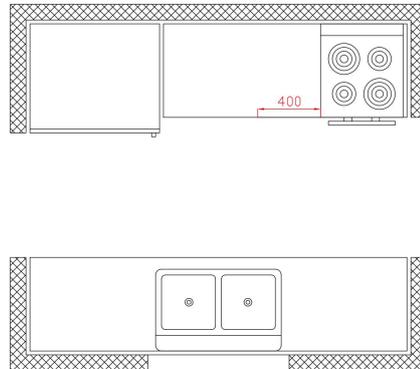
### Rule 12 - Dishwashers



## Rule 13 – Oven set down space

A minimum of 400mm is required beside an oven to be used as a set down space. The same goes for a microwave.

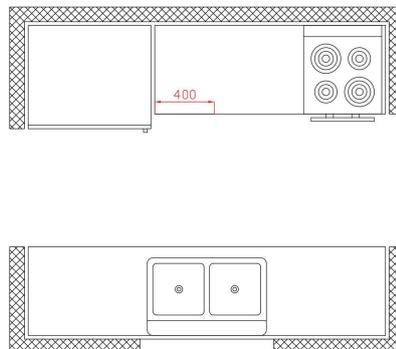
### Rule 13 - Oven set down space



## Rule 14 – Fridge set down space

Ideally a minimum of 400mm worktop space should be allowed for on the door opening side of the fridge for setting down items.

### Rule 14 - Fridge set down space



## Rule 15 – Fire

Don't forget the fire regulations, and the necessary provision of smoke detectors, and extinguishers according to the regulations.

## Rule 16 – Regulations

Be sure to check the building regulations and standards to ensure your kitchen design complies.

Read the original post here:

<https://www.firstinarchitecture.co.uk/metric-data-09-kitchen-standard-sizes>

# METRIC DATA 10: KITCHEN STANDARDS FOR WHEELCHAIR USERS

From FIRST IN ARCHITECTURE

## Introduction

In this metric data post we will be looking at standard kitchen layouts and sizes for wheelchair users. We explore accessible kitchen information for units, appliances, layouts and more.

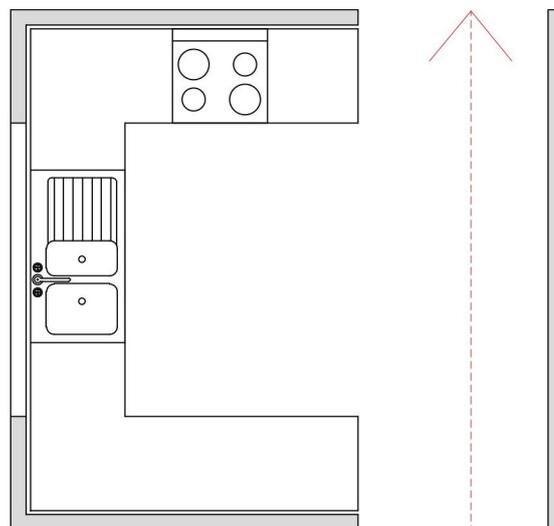
The sizes below are suggestions, and of course, kitchens come in many different sizes - but this is a good starting point and guide. Be sure to check the Building Regulation Approved Documents and other available guides for more information.

## General Design Considerations

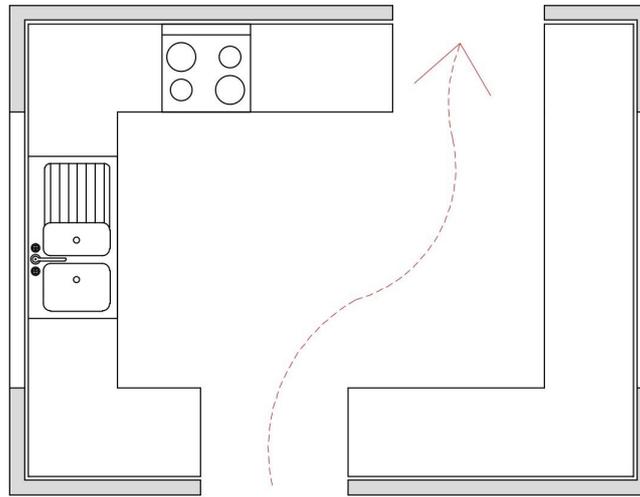
The kitchen should be located on the entrance storey of the dwelling. The kitchen and dining area should be combined to allow for ease of access for a wheelchair user. This avoids the need to pass through doors whilst carrying trays, plates, drinks or hot items. If this is not possible the dining area must be in close proximity to the kitchen and have easy access between the two rooms.

## Kitchen Layout

Kitchens must not be part of the circulation route of the dwelling. This means that any doors to and from the kitchen must not interrupt the continuous worktop and general usability of the space.

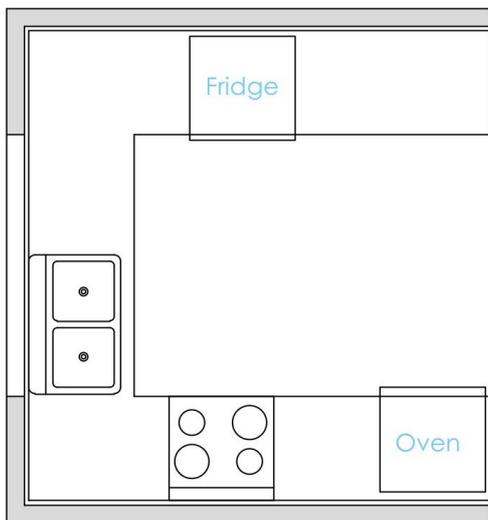


Uninterrupted worktop/workspace

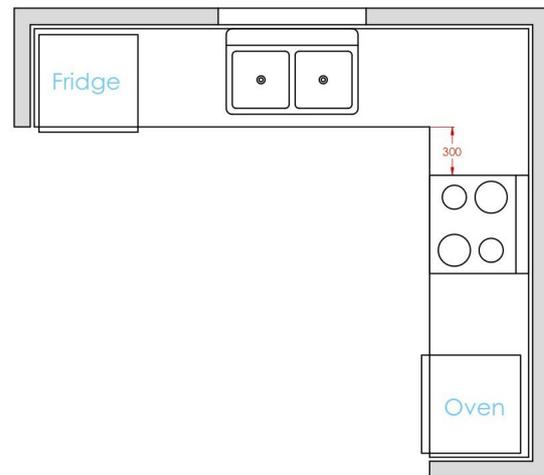


Interrupted worktop/workspace

It is important the kitchen includes a continuous section of worktop, appliances and units, arranged in such a way to avoid the need to cross the space, or for someone to have to carry hot foods or liquids from one worktop to another. The best way to achieve this is by using a U-shape or L-shape layout so that containers and items can slide from hob to sink. A wheelchair user should not have to carry hot or heavy items across an open space or doorway.



Example of U Shape Kitchen



Example of L Shape Kitchen

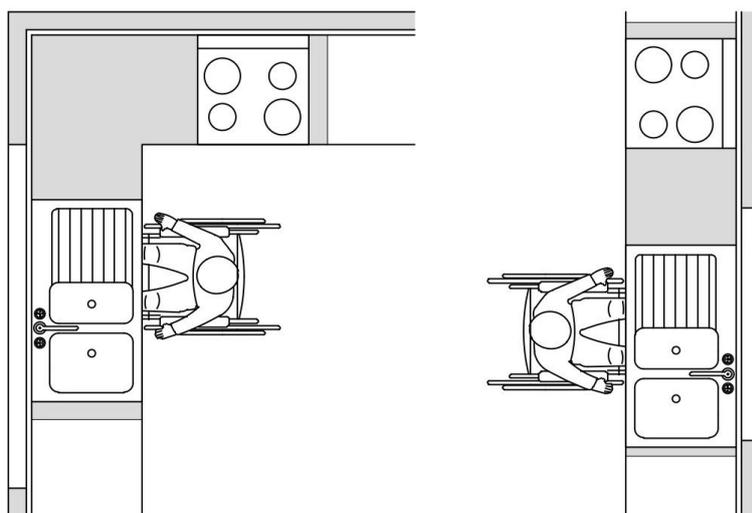
It is important to provide between 1500mm - 1800mm between opposing kitchen units to allow space for movement between the worktops. Note that 1200mm will allow one person to open a cupboard or drawer, while 1500mm will allow two people to work back to back - aim for a larger width wherever possible.

Consider that the kitchen may be used by a wheelchair user, family member, carer and therefore the design needs to be flexible to the different users needs. The layout design should try to maximise the activities that can be carried out from one position, allowing a wheelchair user to carry out tasks without excess manoeuvring and repositioning.

# Worktops

Work surfaces should incorporate the hob and sink on the same run of worktop. According to the Building Regulations Approved Document Part M, the minimum worktop length for a 2 bed space dwelling is 6130mm, for 3/4 bedspace 6530mm. 5 bed space dwellings to have a minimum 7430mm worktop length and 6-8 bedspace 8530mm worktop.

The worktop should be height adjustable with clear leg space underneath. This will enable a wheelchair user to work in the space but also allow someone standing to use the space too. The height can be adjusted between 760mm and 900mm. At least 300mm of worktop should be provided either side of the hob and sink, and to one side of the oven 400mm worktop space. Hobs and sinks with knee space underneath must be insulated on the underside.



Height adjustable area of workspace

Pull out boards adjacent to hobs, ovens or refrigerators can be a useful addition if space is limited to provide extra work surface space.

Knee space under the worktop should be clear and measure 700mm high, 600mm deep and 800mm wide.

## Sink

The kitchen sink should be shallow enough to provide leg space underneath, with all trap and drainage to the back of the sink to ensure a clear space. The sink should be insulated on the underside.

## Units and storage

By providing clear space under the worktops for access, this can often reduce available space for storage units under the work surface. It is important to consider a wheelchair user may have difficulty accessing storage too high or too low accessible solutions must be incorporated.

Base units can incorporate pull out drawers or swing out shelves both that avoid the need for a person to bend and reach into below counter cupboards with difficulty.

Wall units can incorporate pull down baskets or shelves or include electric rise and fall units. Wall units should be fitted 350mm above standard worktop height which will allow access to lower shelves.

Handles should be easy to grip, avoid small knob handles or recessed pulls as these can be difficult for people to use.

Hinged cupboards should be able to open to 180 degrees so that the door does not obstruct the access and manoeuvring space.

Plinths to the base units must be 250mm above floor level and a depth of 150mm for the foot space for a wheelchair footrest.

## Appliances

### Ovens

The oven should be contained in a tall housing unit at a height the oven door can be opened safely above a wheelchair users knees without touching them (about 760mm above floor level). A heat resistant workspace should be provided to one or both sides of the oven so that oven dishes can easily be transferred to the worktop.

The oven should have a side hung door, or preferably a pull down door that slides away into the base of the oven. Freestanding or under worktop ovens should be avoided as there is more risk of burns when bending and reaching to a low level oven.

### Hob

The hob should be fitted flush to the work surface to allow a wheelchair user to slide the pans across the worktop to the hob. Gas hobs are not generally recommended as they increase risk of burns and accidents due to the live flame and raised metal pan supports. Induction hobs are the best option.

Hob controls should be easy to access and operate, located at the front of the unit.

The extractor hood controls need to be accessible, a remotely operated extractor fan is a good option.

### Other appliances

Fridge, freezers and dishwashers should be integrated in order to bring them to a suitable height and allow convenient access. A 200mm plinth should be installed to give adequate toe space so that the appliances are more accessible.

Read the original post here:

<https://www.firstinarchitecture.co.uk/metric-data-10-kitchen-standards-for-wheelchair-users>



# METRIC DATA 11: ACCESSIBLE BATHROOMS AND WC'S IN DWELLINGS

From FIRST IN ARCHITECTURE

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## Introduction

In this section of our Metric Data series we will look at accessible sanitary facilities. This refers to designing wheelchair accessible bathrooms and wheelchair accessible WCs.

The building regulations have varying requirements in terms of accessible sanitary facilities, according to the category you are working towards:

M4 (1) - Visitable Dwellings

M4 (2) - Accessible and adaptable dwellings

M4 (3) - Wheelchair user dwellings

Category M4 (1) is considered to be a compulsory requirement, and the other categories optional unless a condition is imposed on a new development as part of the process of granting planning permission. If no condition is imposed the dwelling will only need to meet requirements for M4 (1), but if the condition is imposed to M4 (2) or (3) it may be that specific dwellings in a development must comply.

My personal feeling is that all dwelling should be as accessible as possible, or at the very least as adaptable as possible. I think we should strive to do more than the bare minimum that our regulations set out and aim to achieve better accessibility and performance in our buildings regardless of government targets.

So for this reason, we will look at making the WC accessible and the bathroom accessible to wheelchair users, and work from section M4 (3) wheelchair user dwelling.

## General provisions for accessible bathrooms and WC's

Some of the general provisions for wheelchair accessible sanitary facilities according to Building Regulations Approved Document Part M include:

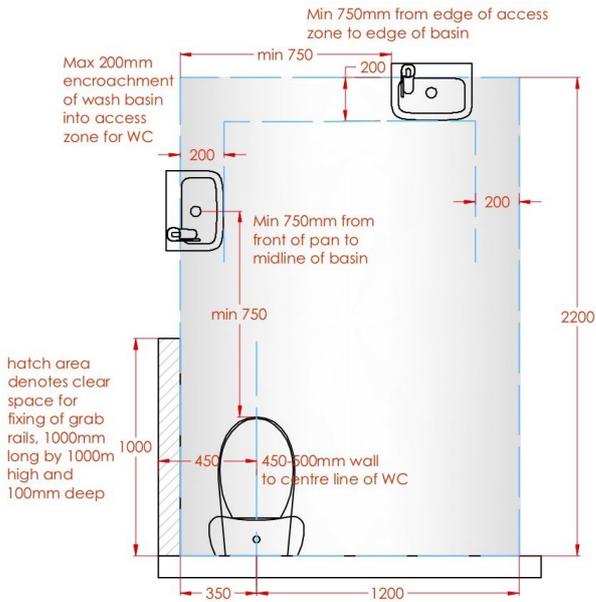
- Any dwelling with four or more bed spaces must provide a minimum of two WCs in separate bathrooms or WC/cloakrooms.
- Every room that contains a level access shower is constructed as a wet room.
- Any walls, ducts and boxing in any sanitary facility must be strong enough to support grab rails, seats and other adaptations.
- The ceiling structure must be strong enough to support an overhead hoist capable of carrying 200kg.
- WC flush controls must be positioned in front of the cistern on the transfer side and can be easily gripped.
- WC pans should be a minimum of 400mm high.
- Basins and sinks should be wall hung, typically 770-850mm above floor level, with a clear zone beneath to allow wheelchair users to approach easily.

# Accessible WC on the entrance storey

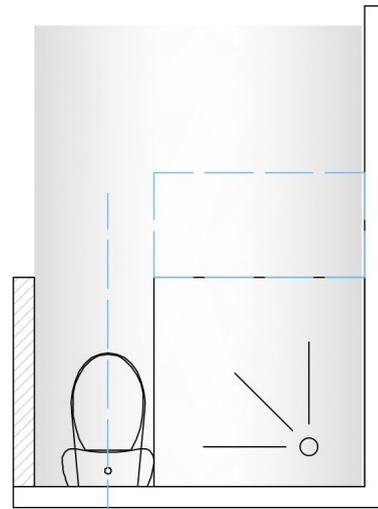
A wheelchair accessible dwelling must have, on the entrance storey, a wet room that contains a WC, a basin and an installed level access shower.

If the dwelling provides both a bathroom and WC on the same storey, the WC does not require a shower (See Part M for details on second WC).

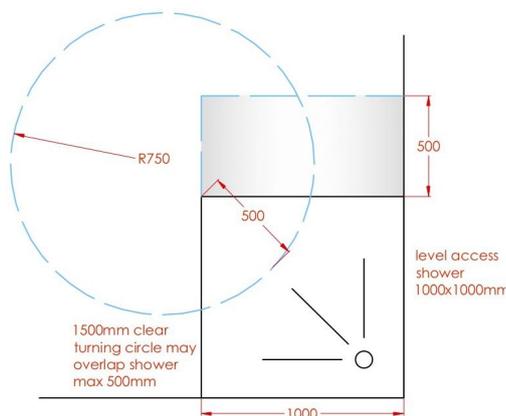
The door to the WC must open outwards.



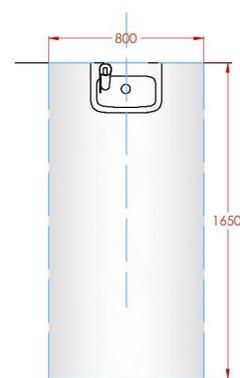
WC Access Zone  
(entrance storey WC)



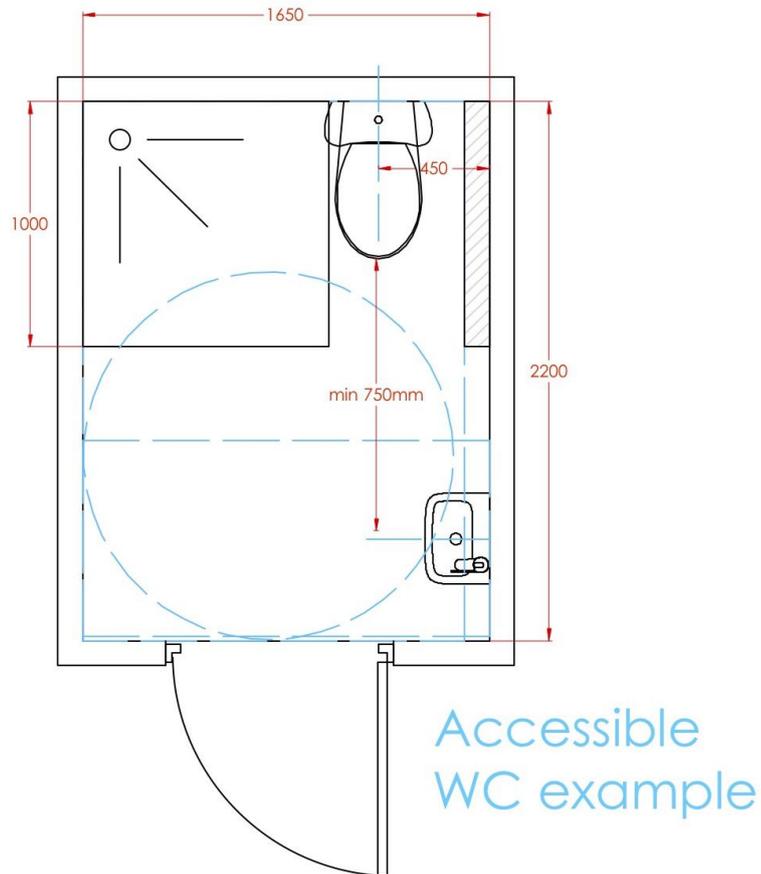
WC Access Zone with  
shower (entrance storey  
WC)



Level Access Shower  
Access Zone  
(entrance storey WC)



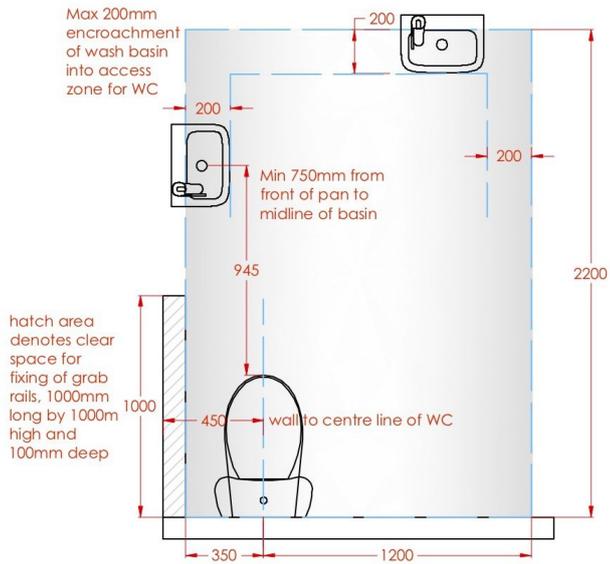
Wash basin  
Access Zone  
(WC and  
bathrooms)



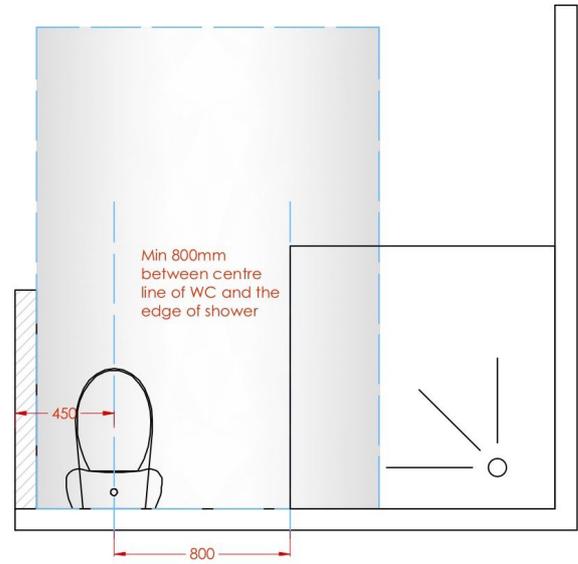
## Bathroom Facilities

To have suitable bathroom facilities for a wheelchair user a dwelling must comply with the following:

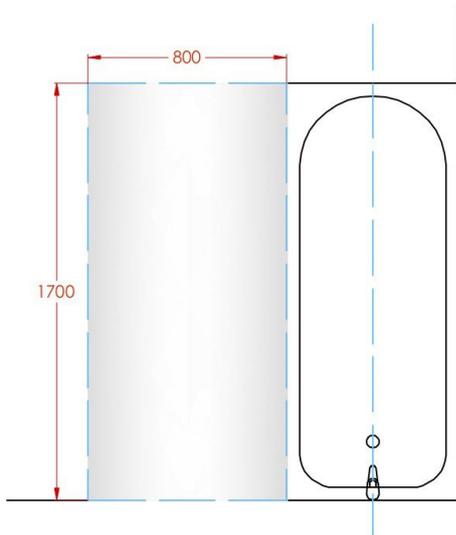
- Dwellings with up to four bedspaces should have a minimum of one bathroom containing a WC, basin and a level access shower, with the potential for a bath to be installed, (unless a bath is provided in addition to the shower, or in another bathroom on the same storey).
- The WC, basin, shower and bath must have suitable clear access zones.
- Dwellings with five bed spaces or more must contain both a usable bath and a level access shower.
- The level access shower must be positioned in a corner to enable a shower seat to be fitted on one wall with the shower controls on the adjacent wall.
- The bathroom provides a minimum 1500mm clear turning circle.



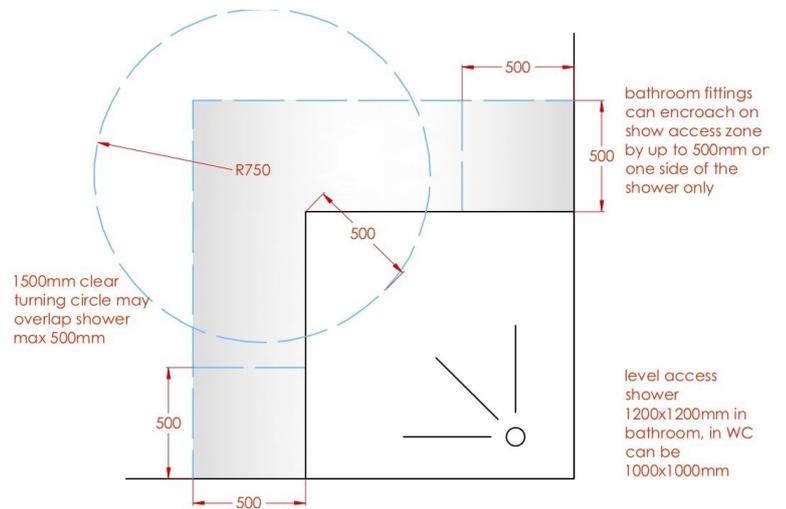
WC Access Zone (bathrooms)



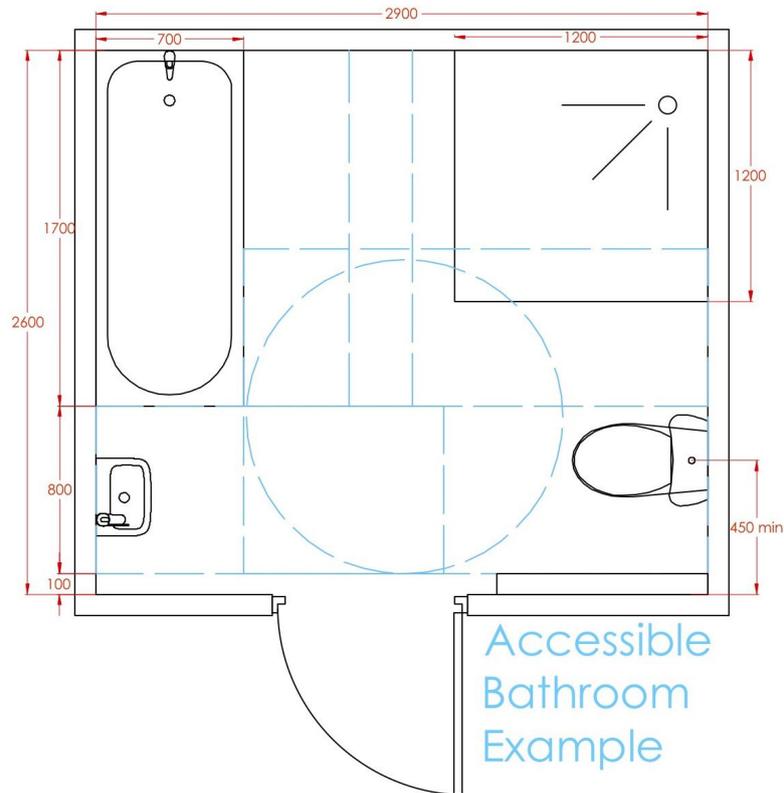
WC Access Zone with shower (bathrooms)



Bath Access Zone (bathrooms)



Level Access Shower Access Zone (bathrooms)



## Other Tips

- Specifying underfloor heating allows the floor to dry faster
- Safety glass for the shower screen can also have frosted manifestations
- Ensure the bathroom door lock is operable from the outside
- All walls should be constructed to be strong enough to take fittings and rails
- Bath installations should include a transfer area at the end of the bath and ensure taps are fitted to be accessible to the nearest corner.

Read the original post here:

<https://www.firstinarchitecture.co.uk/metric-data-11-accessible-bathroom-and-wc/>