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# Accessibility, Part M 2010 and Universal Design in practice



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# Session overview

- Barriers
- Legislation
- Universal Design
- Application of Part M 2010
- Where can accessibility go wrong?
- Questions & Answers





**Barriers faced  
by people with  
disabilities**

# Barriers faced by people with disabilities



Information Provision



Transport



Built Environment

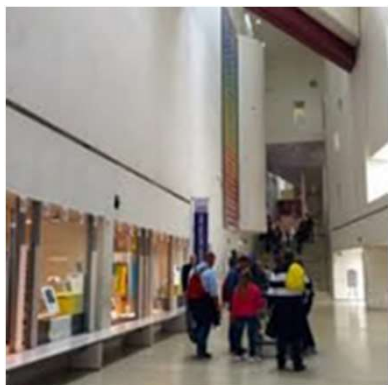


Products & Services



Inclusive Workplace

# What is accessibility? – Gallery Case Study



# Legislation that affects accessibility and Universal Design



## Accessible Service Delivery / Employment

Access to Services					Access to Buildings	Access to Employment	
Equal Status Act 2000 - 2018	Irish Human Rights and Equality Commission Act 2014	Disability Act 2005			Building Control Act 1990 / 2007	The Safety, Health and Welfare at Work Act 2005	Employment Equality Act 1998 - 2018
Applies to public and private sector	Applies to public sector only	Applies to public sector only			Applies to public and private sector	Applies to public and private sector	Applies to public and private sector
Reasonable Accommodation	Section 42	Part 3	Part 5	Part 6	Building Control Regulations (Disability Access Certificates)	Regulation 25	Reasonable Accommodation

# What is Universal Design?

- Universal design is defined in the Disability Act 2005 as “the design and composition of an environment so that it may be accessed, understood and used to the greatest practicable extent, in the most independent and natural manner possible, in the widest possible range of situations and without the need for adaptation, modification, assistive devices or specialised solutions, by persons of any age or size or having any particular physical, sensory, mental health or intellectual ability or disability.”

<http://www.youtube.com/watch?v=AakoD4TmhXM>

- Universal Design refers to the design and composition of an environment so that it can be accessed, understood and used to the greatest extent possible by all people, regardless of their age, size or disability ([www.universaldesign.ie](http://www.universaldesign.ie))

# What is Universal Design?



For OXO, the principles of Universal Design mean a salad spinner that can be used with one hand; liquid measuring cups that can be read from above without bending over; kettles with whistle lids that open automatically when tipped to pour; and tools with pressure-absorbing, non-slip handles that make them more efficient.



<http://www.oxo.com/UniversalDesign.aspx>



# Other considerations – Universal Design

- Accessible Changing places
- Mother and baby facilities
- Dog spending areas
- Prayer facilities
- Scooter charging points
- Power/Automated doors
- Autism Friendly spaces
- Hotel Bedroom Design



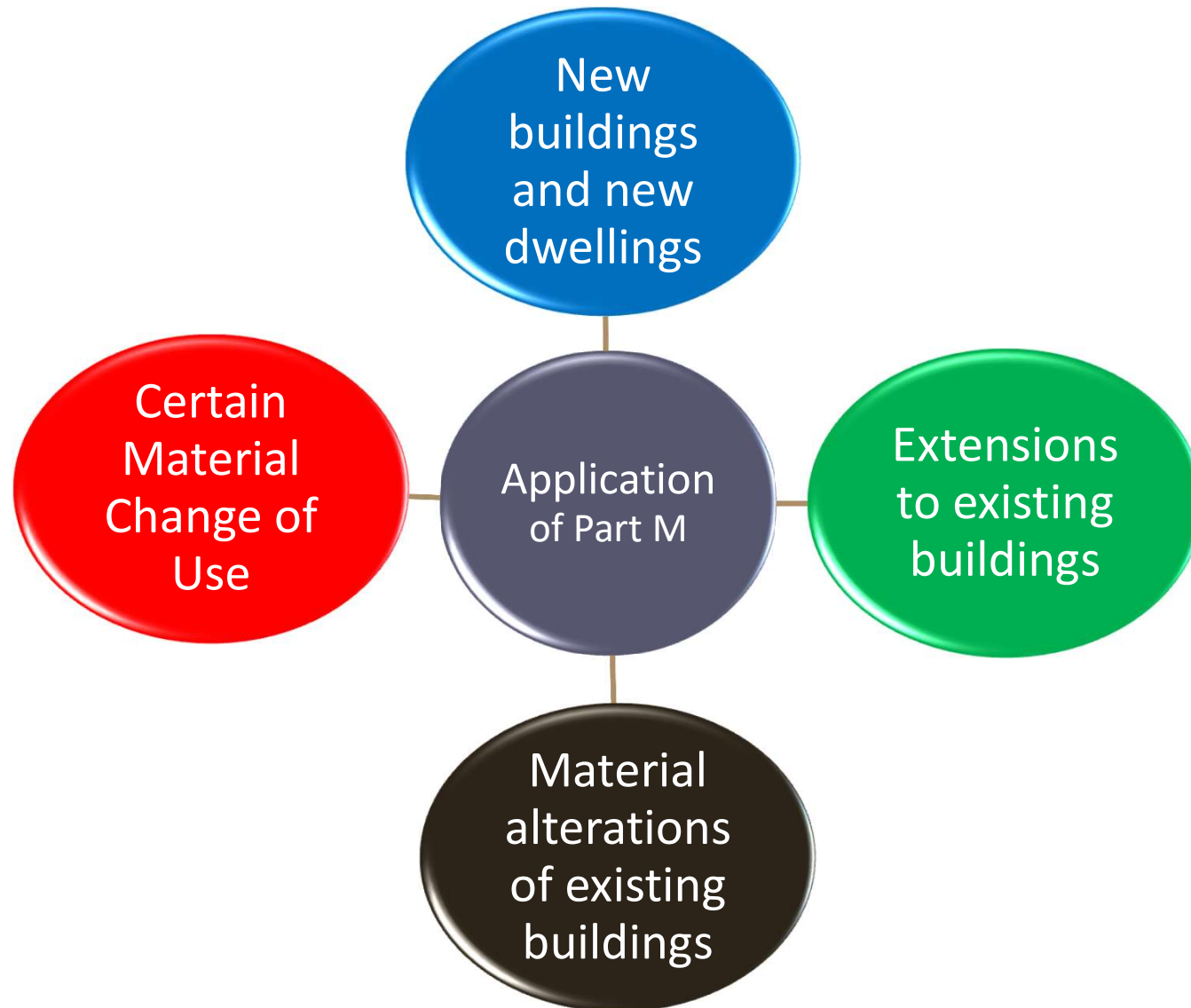
# Part M 2010 – Access and use

# What are the main differences between the 2000 and 2010 Regulation?

Part M of the Second Schedule to the Building Regulations (as amended), provides as follows:

- |                         |    |  |
|-------------------------|----|--|
| Access and Use          | M1 | Adequate provision shall be made for people to access and use a building, its facilities and its environs.   |
| Application of the Part | M2 | Adequate provision shall be made for people to approach and access an extension to a building.   |
|                         | M3 | If sanitary facilities are provided in a building that is to be extended, adequate sanitary facilities shall be provided for people within the extension.              |
|                         | M4 | Part M does not apply to works in connection with extensions to and material alterations of existing dwellings, provided that such works do not create a new dwelling. |

# What type of works does Part M 2010 of the Building Regulations apply to?



0.6 (a) New buildings and new dwellings

0.6 (b) Extensions to existing buildings

0.6 (c) Material alterations of existing buildings

0.6 (d) Certain material changes of use

# What are the main sections of 'Building Regulations 2010 Technical Guidance Document M - Access and Use'?



Part M – The Requirement



Section 1 Access and Use of buildings other than dwellings



Section 2 Access and Use of existing buildings other than dwellings



Section 3 Access and Use of Dwellings

# Part M – The Requirements

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# Use of the Guidelines and application – Section 0.5 of TGD M

## Section 1

Applies to buildings other than dwellings and their environs.

Common areas of apartment blocks and their environs.

Applies to both new and existing buildings

## Section 2

Additional guidance on the minimum provisions where it **is not practicable** to achieve the provisions set out in Section 1 for:

Certain elements and features of existing buildings other than dwellings and their environs.

Common areas of existing apartment blocks and their environs.

## Section 3

Applies to dwellings and their environs including individual dwelling houses and individual apartments

Common areas of duplex buildings.

Not applicable to common areas of apartments

# Where can accessibility go wrong?



# Section 1 - Access and use of buildings other than dwellings

1.1 Approach to buildings other than dwellings



1.2 Access to buildings other than dwellings



1.3 Circulation within buildings other than dwellings



1.4 Sanitary facilities for buildings other than dwellings



1.5 Other facilities in buildings other than dwellings



1.6 Aids to communication



# Section 1.1 - External environment and approach

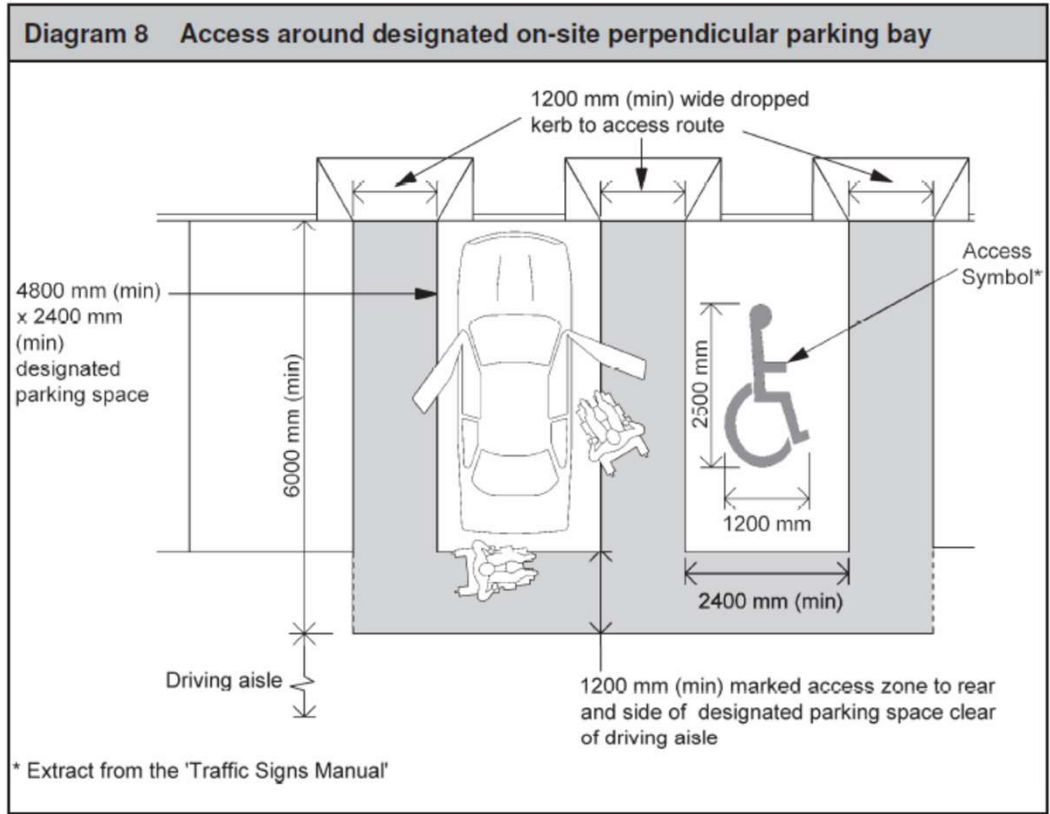
- All accessible approach routes to the building must take into account the guidance provided in section 1.1.3.1 of TGD M 2010 relating to widths and gradients, passing spaces, surface finish, location of street furniture, bollards, clear headroom, lighting, drainage gratings etc.
- Ramped access routes – Size of half landings, design of handrails, gradient, guarding must meet the guidance provided in section 1.1.3.4 of TGD M 2010.
- Stepped access routes - Tactile warnings, handrails continuous, **visual contrasting nosings** and handrails extend 300mm beyond flight.



# Section 1.1 - External environment and approach

- Sloped access routes – Half landings, gradient, guarding, surface finishes must meet the guidance provided in section 1.1.3.3 of TGD M 2010.
- Pedestrian crossings – The design and layout of tactile paving needs to be detailed correctly in line with the LGMSB guidelines – Refer to section 1.1.4 of TGD M 2010.
- **Car parking** – **Location**, Needs to be on a level surface and a footpath needs to be provided at the head of the bay – Refer to section 1.1.5 of TGD M 2010 for additional requirements. **2.6 m headroom**.
- Set down areas need to be designed in line with section 1.1.6 of TGD M 2010 and the route leading to the building need to be designed to 1.1.3 of TGD M 2010.





# Getting into the building

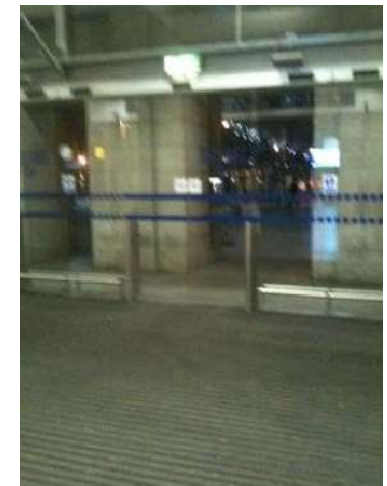
- External entrances and approaches - Level landing of 1800mm required clear of door swings, Maximum threshold of 15mm, Structural supports need to provide visual contrast, trip hazards need to be avoided.
- The door entry system needs to be designed in line with NDA Guidance. Refer to section 1.2.3 of TGD M 2010.
- External and internal surface finishes need to comply with Annex F of BS8300-1:2018 and Annex C of BS8300-2:2018. **Matwell design.**
- Revolving doors – Complimentary accessible door that provides a leading edge of 300mm.
- Where manual entrance doors are provided the opening force needs to comply with section 1.2.4.2 (a) of TGD M 2010. Leading edges of minimum 300mm need to be provided on the pull side of the door.



# Getting into the building

- Where full height glazed panels are installed on entrance doors, glazed manifestations are required. The manifestations need to be in line with section 1.3.3.2 (h) of TGD M 2010. Please note the manifestations need to provide adequate visual contrast and at least 30 points LRV difference.
- Where a glass door is adjacent to, or is incorporated within, a fully glazed wall or glazed screen, the door and wall or screen should be clearly differentiated from one another, with the door being more prominent e.g. the door may be framed on both sides and on the top by an opaque high-contrast strip at least 25 mm wide.
- The effective clear widths of doors needs to be in accordance with Table 2 of TGD M 2010.
- Vision panels on doors need to be designed in line with Diagram 10 of TGD M 2010.
- **Internal lobbies need to comply with section 1.2.5 of TGD M 2010. Slip resistance of floor finishes and visual contrast.**

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# Circulation around buildings – Horizontal

- **Design of reception desks.**
- Lighting in corridors needs to be 100 lux.
- Floor surfaces need to be slip resistant and in line with Annex C of BS8300-2:2018. Refer to section 1.3.3.3 (j) of TGD M 2010.
- Floor finishes need to provide visual contrast from surroundings.
- The opening forces of all new internal doors shall be in line with section 1.3.3.2 (a) of TGD M 2010. Leading edges are required
- All internal doors need to provide adequate visual contrast from their surroundings.







## Section 1.3

### Circulation within buildings other than dwellings

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- use. Where a reception area is provided in an entrance hall:
- (a) it should be easily identified from the entrance;
  - (b) concise signs and universally accepted symbols or pictograms indicating the location of stairs, WCs, circulation routes and other parts of the building should be provided;
  - (c) it should have a direct and unobstructed accessible route from the entrance;
  - (d) in order to facilitate wheelchair users, it should have a clear manoeuvring space in front of a reception desk or counter of:
    - (i) 1200 mm deep x 1800 mm wide, if there is a knee recess of at least 500 mm deep, or
    - (ii) 1400 mm deep by 2200 mm wide if there is no knee recess;
  - (e) it should be designed to facilitate people both standing and seated (e.g. wheelchair users and for people of short stature). If a desk or counter is used it should have a working surface height at two levels as follows:
    - (i) between 950 mm and 1100 mm high to facilitate people who are standing.
    - (ii) 760 mm maximum height to facilitate wheelchair users and people of short stature;
  - (f) at least one low level section should have a minimum length of 1800 mm on the main reception counter. Rationale: A low level counter, 1800 mm long will facilitate two wheelchairs alongside each other or facing each other across the counter diagonally;
  - (g) it should also have a knee recess to not less than 700 mm above floor level. This should be provided on both sides to facilitate both staff and visitors alike. The minimum working surface depth should be 700 mm. To avoid excessive depths of work surfaces, knee spaces for customers and receptionists, both wheelchair users, should not be arranged opposite each other;
  - (h) in buildings where it is not necessary to sign in or transact business across the desk, it is acceptable to have a lowered counter with the knee recess on the staff side only. The length of the low level counter may be reduced to 900mm in this case;
  - (i) it should have a hearing enhancement system e.g. an audio frequency induction loop system and clear signage should be provided to indicate its presence (refer to 1.6);
  - (j) the floor surface should be slip resistant (refer to BS 8300:2009 Annex E);
  - (k) glazed screens in front of reception points should be avoided except where required for security reasons. Windows, glazed screens, reflective or patterned wall surfaces located

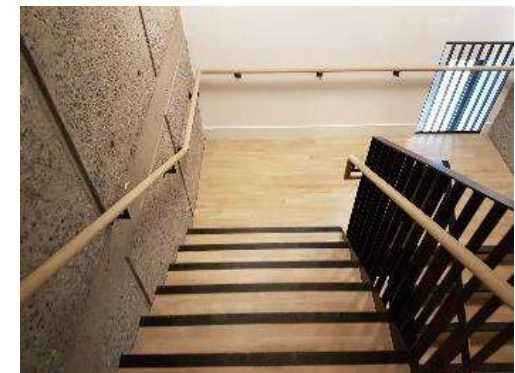
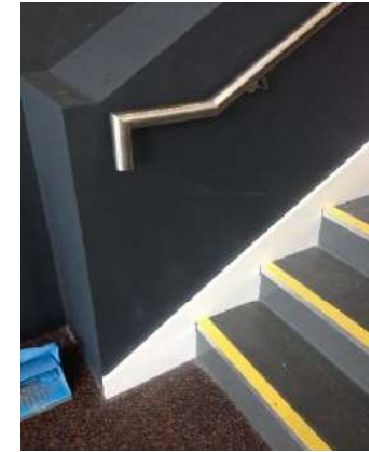
# Circulation around buildings – Horizontal

- The location of all access controls to access restricted areas must take into account the guidance in section 8.5 of BS8300-2:2018. Particular reference must be given to location of same to meet the needs of people with reduced mobility.
- All ironmongery must meet the requirements of section 1.3.3.2 (d) of TGD M 2010.
- Where full height glazed panels are installed in circulation routes, glazed manifestations are required. The manifestations need to be in line with section 1.3.3.2 (h) of TGD M 2010. Please note the manifestations need to provide adequate visual contrast and at least 30 points LRV difference.



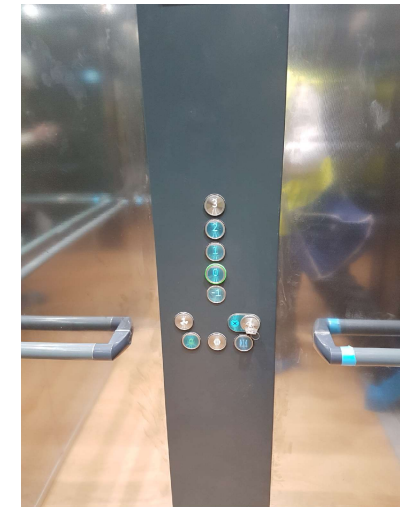
# Circulation around buildings – Vertical

- The ambulant disabled stairwell(s) within the building must be designed and fitted out in accordance with section 1.3.4 of TGD M 2010.
- Stair landings on ambulant disabled stairs should be level and have an unobstructed length (clear of any door swing) of at least 1200 mm or the width of the flight whichever is greater;
- The rise of a flight between landings on an ambulant disabled stairs should not exceed 1800 mm.
- The fit out of the stairs must consider lighting levels, surface finishes and BS8300-2:2018 requirements; rise and going of steps; Handrail design, fixing and visual contrast, avoiding tapered steps and open risers etc. Refer to section 1.3.4 of TGD M 2010. **Visual contrast.**
- <http://www.createsafestairs.uk/create-safe-stairs/>
- **Refuge Areas and intercoms.**



# Circulation around buildings – Vertical

- Passenger lifts must be designed and fitted out in line with section 1.3.4.2 of TGD M 2010 and ISEN81:70 (e.g. colour of floor finish, signage on landings, handrails, audible announcements, mirror locations, visual contrasting panels).
- The size of the lift must take into account section 1.3.4 (j) of TGD M 2010.



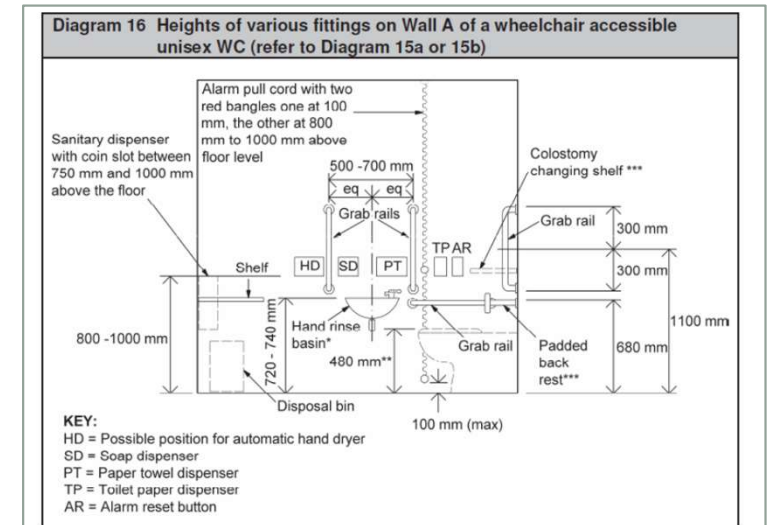
# Sanitary facilities within buildings

- The design of standard cubicles must meet the design requirements of section 1.4.6.1 of TGD M 2010.
- The design of ambulant disabled cubicles must meet the design requirements of section 1.4.6.2 of TGD M 2010.
- The design of enlarged cubicles must meet the design requirements of section 1.4.6.3 of TGD M 2010.



# Sanitary facilities within buildings

- Fixtures and fittings on the wall in line with Diagram 16 of TGD M 2010 (e.g. soap dispensers, paper towel, toilet roll holder etc).
- All grabrails to be laid out as Diagram 15-17 of TGD M 2010.
- Visual contrast and Light Reflective values of floors, walls, fixtures and fittings must be incorporated into the design.
- Grabrails must be firmly secured to allow the weight of person. This is a high risk item.
- Alarms and resets must be laid out as specified in section 1.4 of TGD M 2010.
- The alarm indicator must be correctly located outside the accessible WC and linked to a manned area if possible.



# Sanitary facilities within buildings

- A visual fire alarm is required in the accessible WC.
- Lighting levels need to be 200-300 lux in accessible WCs.
- The design of door locks and flush handles must be accessible.
- All outward opening doors must be fitted with horizontal pull handle.
- The design and layouts must be fitted out in accordance with section 1.4 of TGD M 2010 and associated Diagrams.



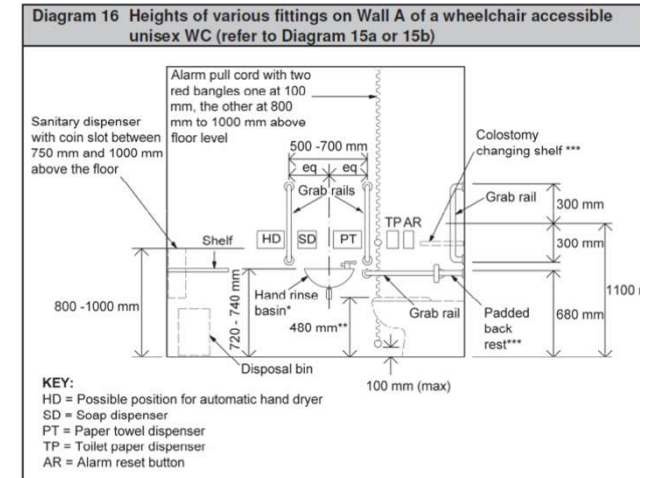
# Ancillary Certifier Part M





# Other facilities in buildings

- Design of Auditoriums:
  - Testing of loops.
  - Provision of paired seating.
  - Location of wheelchair seating.
- Design of sleeping accommodation:
  - Size of rooms.
  - Visual alarms
  - Emergency alarms & Resets
  - En-suites
- **Tea Stations**



# 1.6 - Aids to Communication

**1.6.1 Objective: The objective is to provide adequate aids to communication to ensure people can independently access and use a building and its facilities.**

1.6.2  
Introduction

1.6.3 Signage

1.6.4 Visual  
contrast

1.6.5 Lighting

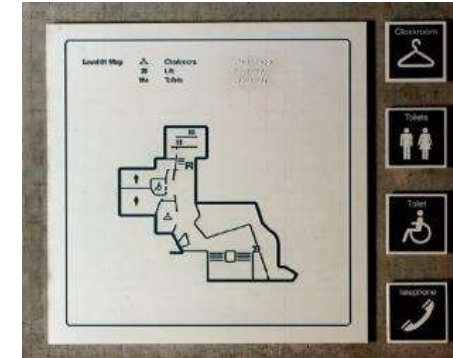
1.6.6 Audible  
aids

## 1.6.3 Signage

Where signage is provided the following design requirements need to be taken into account:

- Clear, short and concise
- Upper and lower case lettering
- Visual signs designed to meet BS8300-2:2018
- Sign directories and orientation signs to meet BS8300-2:2018
- Use of international symbols
- Induction loop signage
- Location of signage – obstructions of passageways

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## 1.6.3 Signage

Provision of signage is required **in certain locations**. In all these cases **(where necessary)** the provisions should be based on the guidance in 1.6.3

- 1.1.3(g) Access Routes;
- 1.1.5(a) On-site car parking;
- 1.1.5(b) Ticketing machines;
- 1.1.6(a) On-site setting down areas;
- 1.2.3 Accessible entrances;
- 1.3.2 Circulation routes – directional signage;
- 1.3.3.1 Reception area in entrance halls (presence of hearing enhancement system);
- 1.4.4 Sanitary facilities – directional signage;
- 1.5.3 Audience and spectator facilities with and without fixed seating – signage to locate podium.



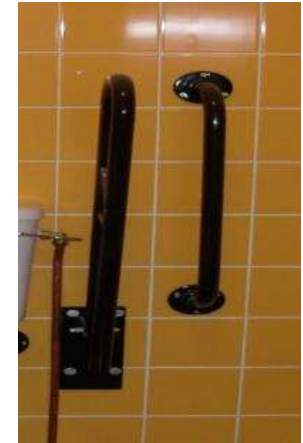
## 1.6.4 Visual Contrast

Visual contrast has to be considered for signage, sockets and switches, doors, door opening furniture, grabrails ironmongery, walls, architraves, etc.

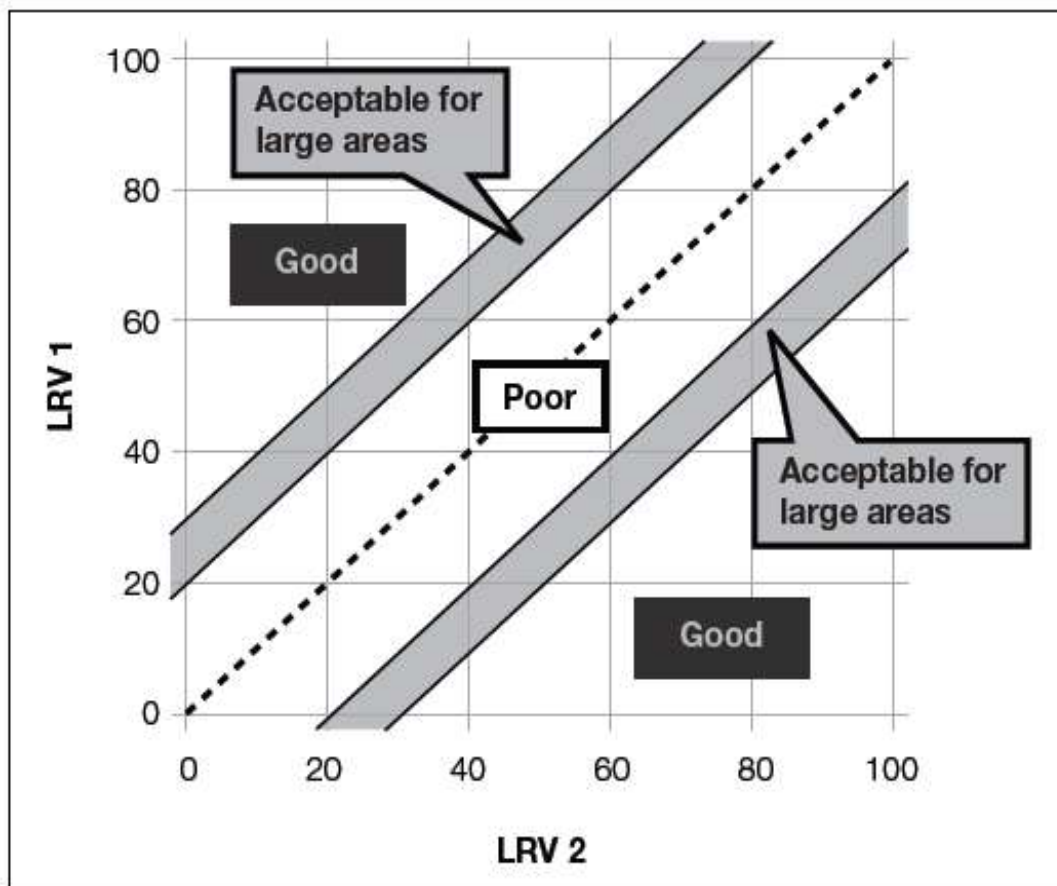
Where visual contrast is provided:

- LRV values should meet the requirements of BS8300-2:2018
- The area should be adequately lit in all conditions
- Shadows and glare should be avoided.
- Large repeating patterns should be avoided.
- **External environments.**

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# 1.6.4 Visual Contrast



66

75

10



22

BS 4800 Colour Chart

## 1.6.4 Visual Contrast

Provision of visual contrast is required **in certain locations**. In all these cases the provisions should be based on the guidance in 1.6.4: Bollards; Upstands on ramps; Step nosings; Handrails on stepped, ramped approaches; Access zone around designated car parking; Manifestation on glass doors and door opening furniture.

Where visual contrast is provided the difference in the LRV should be as follows:

- Generally - 30 points or more;
- Large areas such as wall and floors – 20 points or more;
- Door opening furniture against background – 15 points or more.

# 1.6.5 Lighting

Section	Text	Lux level
1.1.3.1 (g) Access routes	The access route should be clearly identifiable and well lit. Where this is provided by artificial light it should achieve a minimum luminance of 20 lux on level and gently sloped access routes, with a minimum luminance of 100 lux on ramps or steps, measured at ramp, tread and landing level.	20 -100 lux
1.2.3 Accessible entrances	Where an accessible entrance is provided: (a) it should be easily identified among the other elements of the building under all lighting conditions, shadow or strong sunlight e.g. by lighting and/or visual contrast (refer to 1.6.4). Glare and reflection from lighting or materials should be avoided as it is confusing for those with vision impairment (refer to 1.6.5);	
1.2.4.1 Accessible glass doors	Where accessible glass doors are provided: (a) the door should be clearly defined with permanent manifestation on the glass, within two zones, from 850mm to 1000 mm and from 1400 mm to 1600 mm above the floor, contrasting visually with the background seen through the glass (from inside and outside) in all lighting conditions (refer to 1.6.5). The edges of a glass door should also be apparent when the door is open (refer to 1.6.4);	

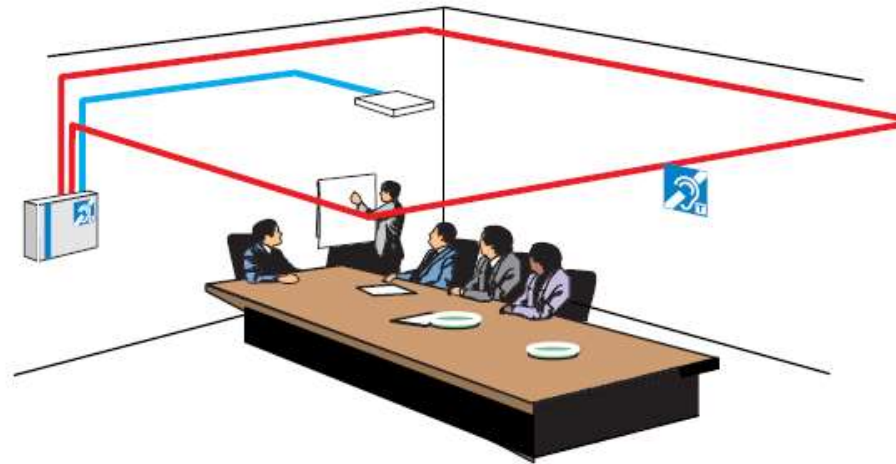


## 1.6.5 Lighting

Section	Text	Lux level
1.3.3.3 (k) – Corridors and passageways	Any full height glazed screens alongside a corridor or passageway should be clearly defined with manifestation on the glass at two levels, 850 mm to 1000 mm and 1400 mm to 1600 mm contrasting visually (refer to 1.6.4) with the background seen through the glass in all lighting conditions (refer to 1.6.5);	
1.3.3.3 (m) – Corridors and passageways	Corridors and passageways should be adequately lit. Artificial lighting for corridors and passageways that receive no daylight should be designed to achieve an illuminance at floor level of at least 100 lux (refer to 1.6.5);	100 lux
1.3.4.2 (v) Passenger lift details	The illumination in the lift car should minimise glare, reflection, confusing shadows or pools of light and dark. Rationale: Areas of glazing should be identifiable by people with vision impairment.	
1.3.4.3 (n) Internal stairs suitable for ambulant disabled people	The illuminance at tread level should be at least 100 lux;	100 lux
1.4 Accessible WCs	Unisex accessible WCs	200-300 lux

## 1.6.6 Audible Aids

- Hearing enhancement systems
- Counter loop
- Fixed induction loop
- Portable induction loop



# Conclusion

- Accessibility is a key factor in nearly every element of the design.
- A detailed review of accessibility criteria needs to take place at tender stage.
- All suppliers and contractors need to be made aware of their obligations and ancillary certificates should be requested.
- Access issues on major projects happen towards the end.
- The devil is in the details!!!!
- Universal Design Vs Part M Compliance.
- Disability Act 2005 and NDSIP 2017-2021.....

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# Thank you - Any questions?

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