Measure of Environmental Accessibility

MEA

Québec

Previously the Measure of accessibility of urban infrastructures for adults with physical disabilities, publish in 2012 produced as part of Stéphanie Gamache's master's project at Université Laval (CIRRIS)

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Introduction

Theoretical conceptualization and development

The foundation of the MEA is based on the **concepts of accessibility**, of **universal design,** and of the **Human development model - Disability creation process** (HDM-DCP).

- **Universal accessibility** [1], aims at getting rid of the artificial, or built, restrictions to opportunities of use of the environment. Building codes and other legislations related to accessibility for disabled persons are based on universal accessibility standards and recommendations. Universal accessibility aims at being beneficial to individuals with incapacities. Hence, the goal is to create accessible environments which can include additions or adaptations. An example would be the installation of a ramp at the entrance of a building.

- **Universal design** [1] is an architectural concept which is not absolute and without predefined criteria, which principles can be adapted to each situation of use of the environment and which is not linked to legislative powers. It is a process allowing diverse populations to improve their performance, their health, their well-being and their social participation. Universal design, although it is not part of a legal framework in Quebec, rests on a political process aiming at developing environments that are accessible to all, without the need for adaptations [1]. An example would be the conception of a ground-level entrance to a building instead of a ramp. It includes seven principles:
    1. equitable use;
    2. flexibility in use;
    3. simple and intuitive use;
    4. perceptible information;
    5. tolerance for error;
    6. low physical effort;
    7. size and space for approach and use.[2]
- **The Human development model - Disability creation process** (HDM-DCP) MEAs out the interaction between personal factors (identity factors, organic systems, capabilities), environmental factors (social and physical, considered either as facilitators or obstacles at various scales (micro, meso, macro)) as well as life habits (daily activities and social roles).[3] This interaction can result in a handicap situation or social participation depending on the level of adequacy and of congruence between these factors[3]. This nomenclature offers a common language for professionals of various domains.

It is therefore with these 3 concepts that the MEA has been developed. Since it is impossible to develop an environmental measure of existing environments respecting the principles of universal design, the concept of universal accessibility has been identified as adequate. If however possible, the principles of universal design should be respected when improving environments and the consideration of all users in this concept remain present in the MEA's labels. Finally, the HDM-DCP acts as a nomenclature, the vocabulary used ensures a uniformity in the terms used in the objective of facilitating exchanges with all types of individuals which can benefit from the use of this measure.

1. Steinfeld E, Maisel JL. Universal design: Creating inclusive environments. Hoboken, NJ: John Wiley and Sons. 2012.
2. Center for Universal Design. The principles of universal design, Version 2.0. Raleigh, NC: North Carolina State University; 1997.
3. Fougeyrollas P. La funambule, le fil et la toile. Transformations réciproques du sens du handicap: Les Presses de l'Université Laval; 2010.

Introduction

Theoretical conceptualization and development

The criteria selection proposed in the MEA was done with different guides, recommendations and norms, from different countries. A compilation of gathered data in these tools has been done and applicable recommendations in a Canadian context answering the needs of individuals with physical, intellectual, and cognitive disabilities the best have been selected. The Group CSA[4] recommendations , which is a Canadian document, have been selected as the principal source of information since it is more representative of the possible progress in accessibility and in Canadian practices. Moreover, ISO recommendations[5], because of their influence since it is from an editor of controlled norms form a group of various experts, have also been used. Even so, all gathered data from other sources have been considered in the development of the MEA and have been added if the information was pertinent. The origin of the criteria or label is presented for each one of them, it is the exponent associated to the reference list for each section. It should also be noted that a particular attention has been given to recommendations from Nordic countries where climatic conditions are similar to ours in order to ensure the applicability of the criteria in our context.

Users

This measure can be used by organizations, institutions, clinicians of the health sector, designers and managers of urban centres, researchers or anyone who wishes to ensure an equitable access to the built environment to people with physical, intellectual and cognitive disabilities.

The assessment of an environment using this measure should be associated with a planned improvement process of the environment. It is important to mention that the MEA should be used in a diligent manner by providing all the information collected to the parties concerned in order to offer solutions while avoiding the use of unanalyzed or undetailed ratings.

4. Groupe CSA. Conception accessible pour l'environnement bâti. Mississauga, Ontario: Groupe CSA; 2012.
5. ISO. Construction immobilière — Accessibilité et facilité d'utilisation de l'environnement bâti. 2011.

Introduction

Description of the Measure of Environmental Accessibility for public environments

This measure enables the assessment of interior and exterior urban infrastructures "ideal" for people with physical (motor, visual, hearing), intellectual and cognitive disabilities and this, in order to promote inclusion for all citizens. The urban infrastructures that can be assessed with the MEA are the following:

Exterior environment

Interior environment

Interior environment

Introduction
Instructions

The measure proposes assessment criteria of the built environment that are objective and measurable. Three levels of assessment are proposed:

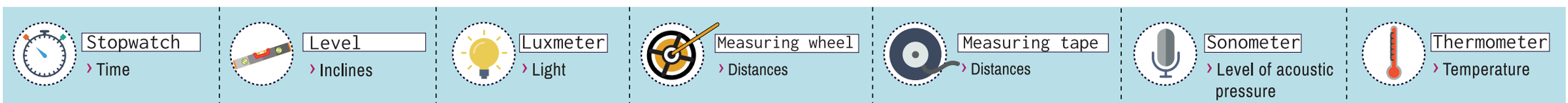
1. The actual measure;
2. The compliance of the actual measure with regard to the proposed assessment criterion;
3. The observations and modifications (concerns, preferences, analysis of the overall situation) proposed by the rater.

At the end of the evaluation with the MEA, no global score is given to the infrastructure. It is the three levels of rating which allow the analysis of accessibility in its globality in order to facilitate the decision making process regarding planning solutions. Ruling on the level of accessibility therefore requires a certain level of reflection from the rater sustained by the cumulated data.

Instruction

Once the element to be assessed has been determined, the rater should browse through the MEA to identify all the relevant sections. In order to avoid repetitions and overload, each element is cited only once in the measure. Consequently, the user might have to consult different sections in order to cover all the desired elements to be measure. For example, to assess toilet stall(s), the rater should refer to the section "Washrooms", but also to the sections "Doors", "Circulation", etc.

The rater should also, beforehand, select the material that he will need to take measures. At the head of each section, on the right, there are pictograms representing the instruments necessary for measure taking per section. Here is their meaning:



Introduction

Instructions

Here is how to complete the assessment:

1. Have in hand the sections and the necessary material to perform the assessment;
2. Take the **actual measure** of the elements presented in the assessment criteria and write them down in the box "Actual measures";
3. Determine the accessibility level by ticking **Compliant**  or **Non-Compliant**  with regard to the proposed criteria;
4. Indicate in the box "**Observations and modifications**" your analysis of the accessibility situation and what could be done to make the environment more accessible, whether they are minor or major modifications.

- Some characteristics cannot be assessed through direct observation (e.g. outdoor lighting during the day, or intensity of an alarm). In this case, the assessor should consult the staff to obtain the missing data.
- Please note that the turning and approach areas (manoeuvring area free and level) proposed in the MEA consider scooter users in the perspective of circulation on long distances, hence outside. According to the Ministry of Health and Social Services[6], it should be considered that people using a scooter have a certain walking capacity allowing them to access the environment (principle for scooters' assignment: capacity to do transfers autonomously, severe walking disability on a distance of more or less 30 meters). The MEA proposes a free and level area for circulation of ≥ 1700 mm in diameter outside because it allows access to users of manual or motorized wheelchairs as well as scooter users. It also proposes a diameter of ≥ 1500 mm inside which allows access to users of manual or motorized wheelchairs and considers the characteristics of scooter users mentioned above. However, please note that it is suggested to have a dimension of ≥ 1700 mm inside. This dimension goes far beyond building standards in force, but would favour a better interior access to scooter users.
- When a free manoeuvring area is required in front of an equipment (e.g. telephone, elevator), this area should have its central point aligned with the commands of the assessed structure (buttons) (excluding the area in front of a door). The assessed structure should not be part of the manoeuvring area. Please also note that, if the clearance height allows it, the free area under a counter can be part of the free manoeuvring area. Where removable furniture can be found in the free manoeuvring area, record it under the section "Observations and modifications", but consider that the manoeuvring area is properly free only if the furniture can be moved by a single person. Also consider that people with a visual disability tend to walk close to walls. If an object protrudes on a place where a person might circulate, please record it as an obstacle.
- As far as the presence of Braille signage is concerned, it would be preferable to use standardized French Braille.

To measure the height of environmental elements, make sure to always take the measure from the ground accessible for a wheelchair user. For instance, for a parking meter placed on a raised grass edge without access to a sidewalk, the height of the control buttons of the latter should be measured from the asphalt of the parking space and not from the raised grass edge.

6. Ministère de la Santé et des Services Sociaux. Programme sur les aides à la mobilité : Triporteur et quadriporteur. 2010 - [cited. Available from: www.msss.gouv.qc.ca].

Introduction

Glossary

1. **Access ramp:** Inclined surface that facilitates access from a level to another.
2. **Back light:** Lighting of an object receiving light from the opposite side to the one from which we look at it.
3. **Curb cut or curb ramp:** Lowering of the sidewalk at intersections to go from the sidewalk to the street and which is round to allow the two perpendicular sidewalk segments to meet.
4. **Disability:** A disability corresponds to a degree of anatomical, histological or physiological impairment of an organic system which is an ensemble of body components working for a common function.[7]
5. **Drop off area:** Space allowing individuals to get out of their vehicle. The equivalent used in the " Guide pratique d'accessibilité universelle " in section 13 is lateral manoeuvring area of the designated space.
6. **Guardrail:** Vertical architectural element installed along stairs, ramps, landings or mezzanines, to avoid falls.
7. **Gyration area (manoeuvring area):** Free space in which it is possible to turn completely on oneself (including wheelchair and other mobility aid users) and which allows one to do a U-turn.
8. **Handrail:** Continuous surface used to maintain the hand in stairs, ramps, landings or mezzanines, to allow a solid and safe grip.
9. **Nosing:** Protruding part of a step, being the protrusion with regard to the vertical with the riser.
10. **Pedestrian path:** Circulation space accessible to pedestrians and city and authorities maintenance vehicles, such as a path at the entrance of a park or leading to a stream.
11. **Pictogram:** Stylized figurative drawing allowing the expression of an idea, a concept.
12. **Riser:** Vertical surface between two steps, between a step and the floor or a stair landing.
13. **Serif:** In typography, serif represents the small perpendicular lines at the extremities of a letter (example under the vertical line of the « f »). Here is an example : **Serif**, **Sans serif.**
14. **Teletypewriter:** Telecommunication device for deaf individuals or partially deaf individuals allowing communication by writing messages on a keypad.
15. **Ticket machine:** Equipment for the payment of parking. It is generally implanted to control out of the street parking and emits, during payment, a ticket that the user needs to put in his/her vehicle.
16. **Toll station:** Equipment for the payment of a parking. It is generally situated on the street and replaces a parking meter.
17. **Visual contrast:** Visual contrast is the difference in light reflection value (LRV) between two adjoining surfaces. Recent research demonstrate that signage is more visible for individuals with visual disabilities when the figure-ground contrast is of 70 % (Black = 0 %. White = 100 %). (see Contrast, in percentage between different named colours page 10).

7 Fougeyrollas P. La funambule, le fil et la toile. Transformations réciproques du sens du handicap: Les Presses de l'Université Laval; 2010.

Slope calculation

Measure the angle of the slope with a level (inclinometer):

› Curb ramps

- Cross slope: Surface linking the sidewalks to the curb ramp (device flat on the surface at the edge of the street).
- Running slope: Surface between the interior (towards the grass or the buildings) and exterior (towards the street) edges of the curb ramp (device in the centre of the arch of the curb ramp).

› Sidewalk, pedestrian path or access ramp

- Cross slope: Surface between the interior and exterior edges (device perpendicular to the circulation axis on the surface).
- Running slope: Surface in the direction of circulation (device in the same direction as pedestrian circulation on the surface).

In any case, many measures should be taken on the entire incline, and, in the same proposed orientation, in order to determine the highest angle. The latter is in fact the measure to retain for rating.

› Conversion table of the slope ratio in degrees and in percentage

› Ratio	› Degrees	› Percentage
1 : 111	0,52°	0,90
1 : 100	0,57°	1,00
1 : 90	0,64°	1,11
1 : 83	0,69°	1,20
1 : 80	0,72°	1,25
1 : 70	0,82°	1,43
1 : 60	0,95°	1,67
1 : 50	1,15°	2,00
1 : 45	1,27°	2,22
1 : 40	1,43°	2,50
1 : 35	1,64°	2,86

› Ratio	› Degrees	› Percentage
1 : 30	1,91°	3,33
1 : 25	2,29°	4,00
1 : 20	2,86°	5,00
1 : 19	3,01°	5,26
1 : 18	3,18°	5,56
1 : 17	3,37°	3,37
1 : 16	3,58°	3,58
1 : 15	3,81°	3,81
1 : 14	4,09°	4,09
1 : 13	4,40°	4,40
1 : 12	4,76°	4,76

› Ratio	› Degrees	› Percentage
1 : 11	5,19°	9,09
1 : 10	5,71°	10,00
1 : 9	6,34°	11,11
1 : 8	7,13°	12,50
1 : 7	8,13°	14,29
1 : 6	9,46°	16,67
1 : 5	11,31°	20,00
1 : 4	14,04°	25,00
1 : 3	18,43°	33,33
1 : 2	26,57°	50,00

- NB : A slope of 1:50 is less inclined than a slope of 1:40.

Contrast, in percentage between different named colours [8]

This Table presents contrast, in percentage, between various named colours. In the case of previously painted surfaces, the use of a photometer is recommended in order to accurately measure the reflective index of the light of the colours present.

	Beige	White	Grey	Black	Brown	Pink	Purple	Green	Orange	Blue	Yellow	Red
Red	78	84	32	38	7	57	28	24	62	13	82	0
Yellow	14	16	73	89	80	58	75	76	52	79	0	
Blue	75	82	21	47	7	50	17	12	56	0		
Orange	44	60	44	76	59	12	47	50	0			
Green	72	80	11	53	18	43	6	0				
Purple	70	79	5	56	22	40	0					
Pink	51	65	37	73	53	0						
Brown	77	84	26	43	0							
Black	87	91	58	0								
Grey	69	78	0									
White	28	0										
Beige	0											

Dot not use — Acceptable — Bordeline case

8 Institut Nazareth et Louis Braille, Société Logique. Critères d'accessibilité répondant aux besoins des personnes ayant une déficience visuelle. Québec: Institut Nazareth et Louis Braille et Société Logique. 2003

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References

› Introduction

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› Interior and exterior environment

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1 Pedestrian infrastructures

Curb ramps/Curb cuts

Instruments necessary for measure

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
1	Surface	Ground	Level, continuous and slip-resistant even if wet [8]					
2		Obstacles	No unevenness nor hole in front					
3		Joints	Type: saw cuts [8]					
4		Alignment	With the unimpeded pedestrian corridor on the sidewalk and guiding pedestrians to their reserved circulation area [8, 9]					
5	Landing (top)	Depth	≥ 1200 mm [9]					
6	Transition	At the centre	Running length ≥ 1500 mm [8, 10]					
7	Running slope	At the centre	≤ 6,66% (1:15) [9] • Where the curb ramp has flared sides: 6.66-10% (1:15-1:10) [9]					
8	Cross slopes		• At junctions, intersections: < 2% (1:50) [9] • Where pedestrians are likely to walk across the curb ramp on vehicle traffic area: < 5% (1:20) [9]					
9		Where there is a counterslope > 11% (sideways)	Transition starting at the ramp base and running over the entire width (sideways) on a distance ≥ 600 mm in a street [9] and with a counterslope ≤ 2% (1:50) [9]					
10	Curb cut width	Excluding flare sides	1200 - 1500 mm [9]					
11	Edge (lip)	Shape	Bevelled or round [8]					
12		Height	≤ 20 mm [11] with the pavement (≤ 13 mm ideally) without being reduced to 0 to remain detectable [8]					
13		Marking	Motif of contrasting colours (≥ 70%), decorative strip or granite curb [8]					
14		Distance between 2 lowerings	> 2500 mm [12, 13]					
15	Tactile tiles	Distance from the edge	150-200 mm [9]					
16		Length	600-650 mm [9]					
17	Lighting		Directed toward the curb ramp or cut: ≥ 50 lux					
18	Obstacles	Distance	> 900 mm [14]					
19	Bollards (if any)	Location	On both sides of the roadway [14]					
20		Width	≥ 1400 mm [9]					
21		Height	1200 mm [14]					
22		Contrast	Contrasting top (≥ 70 %) [14]					
23		Chains	Bollards should not be linked with chains [15, 16]					

Additional Information

- Specific configurations rendering crossing difficult require special considerations to increase their accessibility: Intersections with an angle different from 90°, roundabouts, T junctions or misaligned intersections, intersections with traffic islands, median strips, high radii of curvature, extremely wide streets (possibility of deviating from the walking path), intersections with particular traffic patterns (high traffic that turns at corners and low traffic on one of the approaches) [8]
- Limit the length of pedestrian crossings [8]
- Favor pedestrian crossings that run in a straight-line [8]
- Narrow the roadway at intersections with curb extensions: To protect pedestrians (reduced crossing distance), give them a safe waiting area from which increases they can see and be seen before they start crossing [9]

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
1	Visibility of pedestrian		No parking nor urban furniture blocking the view [8]					
2	Surface	Orientation	Perpendicular to the axis of the street to be crossed [9, 14]					
3			Aligned with curb ramps on both sides [9, 17]					
4		Location	Outside roads, bends or bus lanes (bend radius at the corners to prevent vehicles encroachment into the crosswalks) [9]					
5		Ground	Stable [16], level, continuous, slip-resistant even if wet [8, 9, 16, 17]					
6		Obstacles	No slope, hole or gutter [8, 9, 17]					
7	Gutters		≥ 1 on each side of the curb ramp [14] for water drainage [9]					
8	Markings	Width	≥ 1800 mm [9]					
9		Contrast	Visual (≥ 70%) and tactile [8, 18], as set out in the Manual of Uniform Traffic Control Devices for Canada, and visible at night [9]					
10		Tactile markings	On the middle line of the crossing [8, 9]					
11	Lighting		Lit corridor uniform and continuous [8]: ≥ 50 lux with luminous transitions ≤ 300 lux					

Instruments necessary for measure

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
› Monitoring equipment								
1	Ground surface to call button	Manoeuvring area	Free and unobstructed, uniform, continuous and slip-resistant [8, 9]					
2		Dimensions	≥ 760x1200 mm near pedestrian walkway without blocking the latter [9]					
3	Location	Distance of the pole to the inner edge of the sidewalk	300 mm [15]					
4		Detectability	Detectable ground cue at a height of ≤ 350 mm [8]					
5	Call button	Height	1100 ± 150 mm [9]					
6		Orientation	• Facing the crosswalk it signals [15] • Where there is a single call button for a two-way crosswalk: 45° [15]					
7		Where there is a traffic island	Additional call buttons [15]					
› Traffic lights								
8	Location	Height	2200-3000 m [15]					
9	Countdown	Allotted time	• Pedestrian phase timing for ≤ 4-way crosswalk: length ÷ allotted time = ≤ 0.9 m/s [8, 15] • Pedestrian phase timing for > 4-way crosswalk: total length of pedestrian crossing ÷ allotted time = ≤ 0.9m/s [8, 15]					
10	Audible signals	Walk signals [8]	10-80 dBA, ≥ 10 dBA above ambient noise [19] but avoid noise overload					
11	Visual signage	Square lens	Black background and same dimension at both ways [15]					
12		Countdown	In orange [15]					
13		Walk sign	Fix white pedestrian silhouette [15]					
14		Safe to finish crossing	Flashing orange hand [15]					
15		Don't walk sign	Fix orange hand [15]					

4 Pedestrian infrastructures

Sidewalk and pedestrian path

Instruments necessary for measure

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
1	Surface	Ground	Firm, stable [11, 15, 20], uniform, continuous and slip-resistant even if wet [8]					
2		Obstacles	Plain [13, 14, 16] : No unevenness, hole or gutter [17]					
3			No big design [13, 14, 16] or confusing decorations [13, 14]					
4	Joints	Number	Reduce the number to the minimum with respect to building standards [8]					
5		Orientation	Perpendicular to pedestrian walkway [11, 14, 19]					
6		Type	Avoid trowel marks, favor sealed saw cuts [8]					
7		Width	Control and expansion joints: ≤ 10 mm [8]					
8			Construction joints (asphalt plank) ≤ 12.5 mm [8]					
9		Vertical offset	≤ 10 mm [8] (depth)					
10	Running slope		≤ 5 % (1:20) [9] • Where the slope > 4% (1:25): Landings every 10 m [11] • Where the slope > 5% (1:20): Considered like a ramp and equipped with a lift which can be used by a person alone [9, 15, 21, 22] • Where > 6.25% with length ≥ (1:16) ≥ 30m: Landings every 30 m [8]					
11			Where the slope > 6.25% (1:16): Indicate its gradient in percentage at each end [8, 9]					
12	Cross slope		≤ 2 % (1:50) [9, 11, 15, 16, 20, 22]					
13	Path width	According to the configuration	• Constant two-way traffic: > 1800 mm [20] • Where < 1800 mm and the length > 50m: ≥ 1 passing space at a distance ≤ 25 m (Passing space for 2 wheelchairs: < 1800 mm width and < 2000 mm length) [20] • Frequent two-way traffic: > 1500 mm, provided that passing spaces are included at intervals ≤ 25 m [20] • Infrequent two-way traffic: > 1200 mm, with a passing and turning space ≥1800 mm x 2000 mm every 25 m [20] • Each in turn traffic: > 900 mm, with a turning space ≥ 1500 mm x 1500 mm every 25 m [20] • At path crossings or in front of door openings: ≥ 1.5 m to do a U-turn [13]					
14		Path crossings	Free and level manoeuvring space: ≥ 1700 mm x 1700 mm (different inlaid designs)					

4 Pedestrian infrastructures

Sidewalk and pedestrian path

Instruments necessary for measure

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
15	Free height		≥ 2030 mm (1980 mm [8] is acceptable) [9] • Where the free height < 2030 mm: Gardrails with leading edge at < 680 mm from the ground [9]					
16	Depressions		No depression in the sidewalk (laneways aside) [8] • Otherwise, running slope: ≤ 8.33% (1:12) of a length ≥ 1500 mm [8]					
17	Adjacent ground		Level with sidewalk and visually contrasting with the sidewalk (≥ 70%) [8]					
18			Where there is a change in level of a height of 75-250 mm: Edge protection of a height of ≥ 75 mm [9]					
19	Signage	Conflict points	Obvious signs with an unobstructed view [9]					
20		Where sidewalk width is > 2 m	Motifs of contrasting colours (≥ 70%), decorative strip or granite curb on the free walkway guiding pedestrians [8] • Visual indications different from crossings different from crossing's inlaid designs					
21	Lighting (rest areas included)		Linear [15], uniform, continuous, glare-free, including rest areas: > 100 lux [9] with luminous transitions > 300 lux					

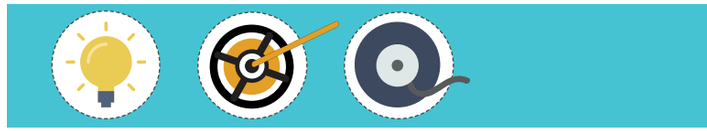
5 Parking
Designated space

Instruments necessary for measure

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modificationss
1	Signage	Information	Presence of a standardized sign clearly indicating the reserved parking space [8] and having the following characteristics: • Contrasting background and writing (≥ 70%) • Font size: ≥ 22 mm • Simple sans serif fonts • Key message (avoid sentences) • Arrow signs to clearly demarcate the accessible space [9]					
2		Reserved parking sign	Not impeding on movements [20]					
3			Dimensions: Width ≥ 300 mm and height ≥ 450 mm [9, 20]					
4			Vertical clearance under the sign: > 2100 mm [8]					
5		Markings	Reserved parking surface is blue and the limits are white lines 100-150 mm wide [8]					
6			International Symbol of Access painted on the pavement at the centre of the parking space and of a length of ≥ 1000 mm [8, 9, 20]					
7			Hatched drop-off zone [8]					
8			Pedestrian walkway(s) leading to building entrance marked with yellow diagonal lines [8]					
9		Lighting	Visible and lit sign: ≥ 200 lux [8]					

10	Designated parking	Minimum number of reserved spaces required	• At least one reserved space in a parking lot [20]
			  • 10 parking spaces = 1 reserved spaces
			  • 50 parking spaces = 2 reserved spaces
			  • 100 parking spaces = 4 reserved spaces
			  • 200 parking spaces = 6 reserved spaces
			• ≥ for specialized facilities [8] (e.g. health care institutions, shopping areas, recreation facilities) [20]					

11			For vans: 1 space for 6 designated reserved parking spaces [9]					



#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modificationss
12	Designated parking	Location	At ≤ 50 m [20] from the main entrance [8, 9, 20, 21, 23, 24] or an accessible entrance (or an elevator for interior parking) [8]					
13			At the ends of aisles for the door not to be between 2 cars [16]					
14			Bollards/curbs separating the vehicles' access aisle from pedestrian walkway [9]					
15			Access to a curb ramp or curb cut to enable circulation on sidewalk up to the building entrance [9, 20]					
16			Path leading to building entrance without having to move behind vehicles other than one's own [8, 9, 25]					
17		**In case of interior parking**	Unobstructed vision or presence of convex mirrors where the vision may be obstructed [8]					
18			Presence of a call-bell or a two-way communication system located near the reserved space(s) [8, 26]					
19		Surface	Level (< 5 mm) [8, 9, 16, 20], stable [9, 20], firm [8, 9, 20] and slip-resistant even if wet [8, 9, 20]					
20		Width	• Single parking space: ≥ 2400 mm [9, 20], ideally ≥ 4600 mm [8] (3m for vehicle and 1600 mm for the drop off area) [8] • Adjacent parking spaces: Width of each space ≥ 3m [8] • For vans: ≥ 2600 mm [9]					
21		Length	• ≥ 5500 mm [8, 9] • For vans: Side and rear access aisles ≥ 2000 mm wide [9]					
22		Drop off area adjacent to reserved space	Width: • Single parking space: ≥ 1500 mm [9, 20, 21, 25] • Adjacent parking spaces: ≥ 1800 mm of shared drop off area [8] • For vans: ≥ 2000 mm [9]					
23			Length: ≥ 6000 mm [9, 25]					
24		Free height	≥ 2750 mm [8, 9, 21]					
25		Lighting	Uniform, continuous and glare-free: ≥ 50 lux with luminous transitions ≤ 300 lux					
26			Continuous up to the main entrance					

6 Parking

Parking meter, ticket machine or toll station

Instruments necessary for measure

› **Additional Information**

- Force needed to activate the functions: Require little force (use of 2 fingers) (≤ 22.2 N = 5 lbs)[8]

#	Elements	Composantes	Critères	Actual measures	Absent	Compliance		Observations and modifications
1	Position	Location	• Close to reserved spaces[8] • In the entrance hall of the adjacent building[8]					
		› Where the equipment is located outdoors, add the following criteria:						
2		Transition	• Curb ramp/cut to access the equipment • Same level as circulation area					
3		Orientation	Perpendicular to the passageway where it is found (not necessarily with respect to the street)					
4		Ground surface	Running slope: ≤ 2% (1:50)[8]					
5			Cross slope: ≤ 2% (1:50)[8]					
6			Uniform and slip-resistant even if wet					
7			No sidewalk joints or with saw cut joints of a width and a clearance height of ≤ 10 mm					
8		Manoeuvring area	Free and level of a diameter ≥ 1500 mm[8, 16], ideally ≥ 1700 mm					
9		Free height	≥ 1980 mm					
10		Obstacles	No obstacle in the circulation area (terrace, work zone, trashcans, urban furniture, snow bank, sidewalk sale)					
11			Equipment located at > 400 mm of any other obstacle[27]					
12	Equipment	Assistance	Assistance system provided[8, 9]					
13		Detectability	Extended up to the ground for detectability with a white-cane[16]					
14		Audible signals	Indicates an operation/location of an audible function[8]: 10-80 dB, ≥ 10 dB above ambient noise[19]					
15		Visual signage	Contrast to indicate an operation/location of a function[8]					
16	Signage	Display of instructions[8] **Favor pictograms (avoid sentences)**	Near the equipment and having the following characteristics: • Height of the average horizontal line: 1200 ± 100 mm • Contrasting background and writing: (≥ 70%) • Font size: ≥ 22 mm • Simple sans serif fonts					

6 Parking

Parking meter, ticket machine or toll station

Instruments necessary for measure

#	Elements	Composantes	Critères	Actual measures	Absent	Compliance		Observations and modifications
17	Screen	Centre height	≤ 1200 mm					
18		Writing	Contrasting background/writing (≥ 70%). Height: ≥ 22 mm					
19	Keypad and coin slot	Height	800-1100 mm [5]					
20		Keys	Height: ≥ 19 mm [20]					
21			Indication of the function with contrasting raised characters (≥ 70%) of ≥ 16 mm [8] in height					
22			Spottable numbers from 1 to 9 set out in a square pattern, aligned from left to right, 5 (at the centre) with a raised spot, and 0 under 8 [16]					
23		Operability	Operable with a fist without torsion of the wrist [8]					
24		Needed force	Require little force (use of 2 fingers)					
25	Lighting		≥ 200 lux [9]					

7 Signage and outdoor access

Instruments necessary for measure

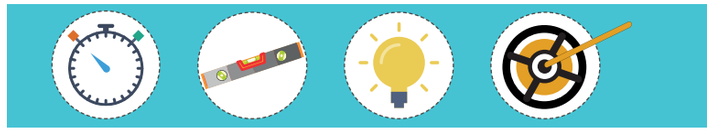
› **Additional Information**

- Where the building entrance is ≥ 200 m away from the sidewalk: Place, every 100m, ≥ 2 seats or 2-seat benches out of the circulation area [16]

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
1	Exterior signage	Street number	Height of the average horizontal line of lettering: 1500 ± 100 mm [8]					
2			Numbers' height: ≥ 100 mm [8] (readable from the distance where the reader stands)					
3			Colour contrast with the wall (≥ 70%) and on a matt surface [8]					
4			Visible and lit (≥ 200 lux) [8]					
5		Entrance	• Main entrance marked as accessible [22] • Where the main entrance is not accessible: Directions to reach an accessible entrance identifiable with the accessibility sign [22]					
6			Height of the average horizontal line of accessibility signage: 1500 ± 100 mm					

8 › Doors

Instruments necessary for measure ›



› Additional Information

- Doors that open automatically are preferable [8, 9]
- Sliding automatic doors are generally the most convenient to use [9]
- If it is the main entrance: Presence of more than one power-assisted door [9]
- For doors that are not automatically activated: Use activation pads [9] (see section on Power-assisted doors)
  - A 2nd activation pad should be located at a height of 200 mm for activation by the foot [9]
- If it is a power-assisted swinging door, it would be ideal to have cane-detectable guardrails or other barriers perpendicular to the wall of the door [9]
- Avoid a door completely made of glass on a glass facade [8]
- Avoid knob, ball, butterfly, "T" and thumb-latch handles
- Possibility to lend equipments and mobility aids at the entrance (reception)
- Force needed to pull or push the door:
  - Exterior swinging door: ≤ 38 N [8, 9, 20, 21, 22, 24]
  - Interior swinging door: ≤ 22 N [8, 9, 20, 21, 22, 24]
  - Sliding and folding door: ≤ 22 N [9]
- Force needed to stop door movement: ≤ 66 N [9]

› Information on measurement process

- For swinging doors, the clear opening width of doorways is measured between the face of the door or the panic hardware and the face of the stop with the door open at 90° [9]
- For sliding doors, the clear opening is measured between the edge of the open door and the door frame [9]

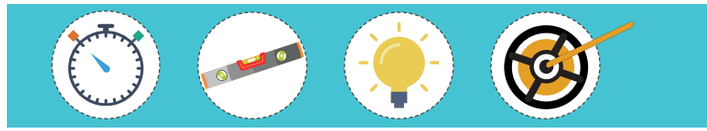
#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
1	Doors	Location	• If it is a door opening on a staircase going down or a ramp: Safety distance ≥ 2000 mm [20] • On a main circulation route: Compliant transparent glass panel [8, 9] ***(see below for glass panel)***					
2		Manoeuvring area	Out of the door opening area • Exterior door: Diameter ≥ 1800 mm [8] • Interior door: Diameter ≥ 1500 mm [8]					
3		Side clearance (handle side)	Pulling side: ≥ 750 mm [8]					
4			Pushing side: ≥ 300 mm [8, 9]					

8 Doors

Instruments necessary for measure

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
5	Doors	Threshold	≤ 13 mm[9, 21, 22], should be ideally avoided if possible[8, 20] • If > 6 mm high: Bevelled ≤ 50% (1:2)[9] • Where a raised threshold (≤ 20 mm) is required: Descending chamfered threshold with LRV difference to floor ≥ 30 points[20]					
6		Protective strip	On both sides of the door and 300 mm high[8]					
7		Clear opening	Clear width: • Exterior door: ≥ 920 mm[8] • Interior door: ≥ 865 mm[8]					
8			Clear height: ≥ 2030 mm (1980 mm is acceptable)[8, 9, 22]					
9		Visual contrast ≥ 70% between	The door and the door frame[9]					
10			The door frame and the wall (outside and inside the room)[9]					
11			The door and its handle[9, 28]					
12		Glass panel[8]	Transparent[9]					
13			Height of lower edge: ≥ 900 mm[9]					
14			Height of upper edge: ≥ 1600 mm[20]					
15			Width: Corresponds to a distance of 200 mm from the latch edge of the door and ≥ 150 mm[20]					
16			If the door or the side panel is made of glass, add an opaque continuous strip having all of the following characteristics[9] • Colour- and brightness-contrast with the door colour • Strip height: ≥ 50 mm • Extends on the entire width of the door or side panel at a height of 1350-1500 mm					

Instruments necessary for measure ›



#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
17	Hardware (handles, latches, or locks)	Operating devices (handles, latches, or locks)	Height: 800-1200 mm[9]					
18			If it is a sliding door: Exposed and usable from both sides[9]					
19			Operable with one hand[20]					
20			Space between door and handle: 35-45 mm[20, 29]					
21		For manually-operated swing door	• "D"- or "L"-type curved handle (lever type)[8] • Commercial or institutional handles: Vertical tubular OF full height of the door with a diameter ≤ 40 mm[8] • Panic bar					
22			Height: 915 mm[8]					
23	Card reader	Configuration	Height: 800-1200 mm[9]					
24			Include audible (beep) and visual (light) signals to indicate that access is granted[9]					
25	Security	Fire door	Can be easily opened from inside without using a key[20]					
26		Revolving door	Near a barrier and having a clear width ≥ 810 mm[9]					
27		Revolving door	Favour large models, large-diameter type, offering all the space and security needed for wheelchairs and equipped with a reduced speed button[8]					
28		Obstacles for all the doors	Fix the hinges on the door frame and not on the floor, on pivot[8]					
29			Favour a 300 mm protective strip at the bottom of the door[8]					
30			Install weatherstripping at the bottom of the door not on the threshold[8]					
	› **For the following items, complete the section(s) for the appropriate type of door** (Power-assisted doors, Power-assisted swing door, automatic sliding or folding door, Two doors in series)							
31	Power-assisted doors	Activation	• Where there is a presence detector: Detect a person sitting or standing[16] • Where there is an activation pad: By touching anywhere on the surface[9]					
32		Activation pads (not automatic)	Location: Along the access route, visible before reaching the door and on the wall adjacent to the pad or any adjacent wall, but away from the door path[9]					
33			Free and level manoeuvring space: 750 x 1200 mm in front of the pad[9]					
34			Signage: International symbol of accessibility[8, 9] and button contrasting with the support[9]					

Instruments necessary for measure

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
35	Power-assisted doors	Activation pads (not automatic)	• Ideal type: Vertical activation bar at a height between 175-900 mm[9] • Rectangular ≥ 25x75 mm[9] • Round with a diameter ≥ 100 mm[9]					
36			Height: 800-1200 mm[9]					
37			Lighting (e.g. door opening pad, videophones): ≥ 200 lux[8]					
38	Power-assisted swing door, automatic sliding or folding door	Opening time	Having the following characteristics[9] : • Door closed to fully opened: ≥ 3 seconds • Time that the door remains open: ≥ 5 seconds • Closing time (door opened at 90° to closed at 12°): ≥ 3 seconds					
39		Detection device	Ensuring that a person approaching or leaving the door does not come into contact with the door during the opening and closing phases[20]					
40		Return delay mechanism	Allowing the passage of a person (sufficient opening time) and detects the presence of a person on the floor within the door closing area[20]					
41			Can be used manually in the event of electrical failure[20]					
42			Does not stand in the way of the evacuation route[20]					
43	Two doors in series	Manoeuvring area	≥ 1500 mm plus the width of any door swinging into the space[9] and opening not requiring any change of direction					

44			• Straight-line circulation:
			  • Pulling side: ≥ 150 0x 1500 mm[9]
			  • Pushing side: ≥ 1200 x1200mm[9]
			• Where "L"-type direction change is required:
			  • Pulling side: ≥ 1500 (width on the wall of the door) x 1200 mm (depth on the wall perpendicular to the door)[9]
			  • Pushing side: ≥ 1500 x 1050 mm[9]
			• Where a turning space at 180° is required: Clear space ≥ 1600 x 2150 mm[20]					

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
1	Information	Emergency and security procedures	Displayed at every entrance and emergency exit leading outside[16, 20]					
2			Clear and adapted[18] with technical drawings for fire safety, descriptive text and product/system information related to fire safety[20]					
3			Print and/or digital form[20]					
4		Evacuation plans	Available in an understandable format for all (e.g. large print, audio, Braille, easy-to-read characters)[20]					
5			Oriented in the same direction as the user					
6		Hazards	Indicate all hazards[18, 20]					
7		Visual alarms[8]	Synchronized with audible signals[9]					
8			Flash frequency range: 1-3 Hz[9]					
9			Placed in the way that the visual signal is visible everywhere[9]					
10	Fire alarm	Manoeuvring area	Free and level in front of the equipment of a diameter ≥ 1500 mm					
11		Height	≤ 1200 mm[9]					
12	Evacuation chairs	Manoeuvrability	Are safely and easily manoeuvered[20]					
13			Enable to go up and down staircases[20]					
14			Enable to cover long distances horizontally and outside (compensate for potential challenges of a particular environment)[20]					
15			Can carry heavy persons (up to 150kg)[20]					
16	Area for rescue assistance	Location	On every floor and near each evacuation staircase[20]					
17		Signage	Clearly indicated with the appropriate signage[20]					
18		Area	≥ 2 spaces of 850 x 1200 mm[9]					
19			Include a space for persons in wheelchair of sufficient size for the storage of an evacuation chair, a manual fire alarm call point, a fire evacuation supply kit (for example, smoke hoods, protective gloves)[20]					
20		Equipment	Independent, accessible and reliable communication system fixed at a height of 800-1100 mm[20]					

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
21	Fire extinguishers	Manoeuvring area	Free and level in front of the equipment of a diameter ≥ 1500 mm[29]					
22		Detectability	Protruding with cue on the floor (avoid doors) • Where there is a door, height of the handle: 800-1100 mm[16]					
23	Emergency exits	Signage	Clearly indicated[28]					
24		Handle	Panic bars					
25		Contrast	Colour-contrasting door for the entire building[28]					
26	Lighting	Exit paths	Lit in the dark[8]					
27	Emergency phone	Manoeuvring area	Free and level in front of the equipment of a diameter ≥ 1500 mm					
28		Average height	≤ 1200 mm[9]					
29		Cord	Length: ≥ 915 mm					

10 Signage

Instruments necessary for measure

General information

- The signage should be uniformly distributed, taking into consideration the routes' length[15, 18]
- The signs shape should be consistent for one site[8]
- Ensure a homogeneous visual identity (location, size, font, colour, shape, graphic design, etc.), including harmonization of arrows and their size (pay attention to their location, implantation, orientation, and direction)[9]
- Allow decision-making where direction changes are possible (strategic decisions points) facilitating spatial orientation[8]
- Favour the use of pictograms[8]; avoid any form of originality and do not modify them.[18] A text should reinforce the meaning of the image and not be used to compensate for the difficulty of comprehension of the pictogram[18]
- Use short and easy-to-understand messages[8]
- Respect the existing colour codes and always use the same colour codes[14, 15]
- Electronic display requires larger fonts than the ones of traditional display, for the same reading distance.[15] Favour LED lighting[8]

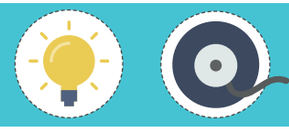
To be avoided

- Floor signage (even in large print)
- Vertical texts, special fonts, crowded signs with too much information, right or justified alignment, visual clutter[18]
- Letters scrolling on a screen[18]

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
1	Configuration	Location	Presence of a global sign of the building in the entrance hall or near the accessible entrance[8] • Where the accessible entrance is not the main entrance and does not have an overall sign of the various services: Presence of indications to get to the reception desk					
2			If it is the identification of a room: On the wall adjacent to the door at about 200 mm from the frame, handle side[8]					
3		Manoeuvring area	Free and level in front of the signage[18] of a diameter ≥ 1500 mm					
4		Average height of signage	1200-1600 mm[20] • Where the signage protrudes: 1980-2300 mm[8] • Where the signage might be hidden (too many people circulating in front of it): ≥ 2100 mm[20]					

Instruments necessary for measure

#	Elements	Components	Criteria	Actual measures	Absent	Compliance	Observations and modifications
5	Configuration	Height of letters, numbers, signs, and graphic symbols [9]	• Viewing distance: 1 m • Viewing distance: 1 m • Viewing distance: 5 m • Viewing distance: 10 m • Letter: 30 mm • Letter: 60 mm • Letter: 150 mm • Letter: 300 mm • Pictogram: 50 mm • Pictogram: 100 mm • Pictogram: 250 mm • Pictogram: 500 mm				
6		Thickness of raised letters	≥ 0.8 mm, ideally between 1-1.5 mm [8, 20]				
7		Formatting	Align text on the left				
8			Spacing ≥ than the height of the font characters				
9		Font	Sans serif [8, 9, 20] with Arabic numbers [9]				
10			First letter of the indication / message in uppercase and the following letters in enlarged lowercases / avoid capitalized texts or a writing fully in capital letters [9]				
11			Characters height-to-width ratio: 3:5-1:1 [8, 9]				
12			Stroke-width-to-height ratio: 1:5-1:10 [8, 9]				
13		Message	Separate two directions by a contrasted line [14]				
14	Contrast	Colour	Sign contrasted with the wall [9] and of a pale and plain colour (no image)				
15			≥ 70% [8] (preferable: in reversed polarity (pale writing on dark background)) [9] and limited to a mix of 2 colours [30] OR Favour blue or black writing				
16		Surface	Matte finish [8] and lit and out of a zone against the light [9]				
17		Lighting	≥ 200 lux [8,9], and well-lit day and night [14]				
18	Uncontracted Braille and tactile writing	Location	Height: Horizontal centreline at 1500 ± 25mm [9]				
19			Latch edge with leading vertical edge at 150 ± 10 mm from the door frame [9] • Where there are double-leaf doors: On the nearest adjacent wall [9]				
20			Allow a person to approach to < 100 mm without encountering protruding objects or standing within a door swing [9]				
21			Surrounded by a clearance of a width of ≥ 75 mm [9]				



#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
22	Configuration	Formatting: Braille	Writing height: 0.6-0.8 mm [8, 31]					
23			Diameter: 1.5 mm [8, 31]					
24			Shape: Conical or hemispherical shape, non-cylindrical [31]					
25			Distance between 2 adjacent points, vertically, horizontally, but not diagonally, from centre to centre: 2.3-2.5 mm [8]					
26			Distance between the same point of 2 adjacent cells on the same line: 6.1-7.6 mm [8]					
27			Distance between the same point of 2 facing cells on consecutive lines: 10.0-10.1 mm [8]					
28		Formatting: Tactile characters	Thickness of raised letters: 0.8-1.5 mm [9]					
29			Height: 16-50 mm [9]					
30			Accompanied by uncontracted Braille near the bottom edge of the sign [9]					
31	Plan of the building (Information to add to the one provided above)	Location	At readily identifiable decision places (entrance, floors' entrance, junctions [18]					
32			On the presentation documents of the establishment [18]					
33		Information	Simple and free from any distractive information, ideally by pictograms [18] including the following characteristics: • A " You are here " point [18] • Legend listing elements in alphabetical order: Logos and pictograms used in the legend present on the plan [18] • Indicate the specialized services/equipment with the International Symbol of Access, and the way to reach them [32]					
34			Scale of the plan: Enable users to evaluate distances and to easily identify common premises and places [18]					
35		Contrast	Colour codes to identify the floor or the area where one is and for continuous help to locate oneself [8, 18]					
36			Level and non-reflective surfaces (avoid glossy supports, reflections and backlights) [18]					
37		Lighting	Good, whilst favouring indirect lighting [18]					

11 Desks

Instruments necessary for measure

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
1	Desk	Manoeuvring area	Free, firm, and level of ≥ 800 x 1350 mm[9]					
2		Clearance	Height: ≥ 680 mm (or have an adjustable height) with extension ≤ 100 mm of supports[9]					
3			Width: ≥ 750 mm[9]					
4			Depth: ≥ 480 mm, can overlap the clear floor area[9]					
5		Height - surface	730-860 mm[9]					
6			950-1100 mm for persons standing[20]					
7		Contrast	Between the furniture and the environment: • ≥ 70% with the walls and the floor[33] • Addition of a contrasting stripe on the desk's periphery[8]					
8			Surface: Glare-free[8]					
9			Medium-coloured surface (contrasting with light/dark objects)[33]					
10			Where there is a glass: Contrasting horizontal stripes or patterns (≥ 70%) at a height of 900-1500 mm, ideally no glass[8]					
11		Lighting	Surfaces dedicated to reading and filling of documents: ≥ 200 lux in the room and 350-450 lux on the surface[20]					
12			Where there is an employee: Face of the person well lit (≥ 700 lux) and out of backlight[8]					
13	If it is a reception desk	Availability of plans[18]	Those which are found at each floor, and located, if possible, at the same place near access points (staircases, elevators)[18]					
14		Communication	Offer the possibility of written communication: tablet, paper[27]					
15		Location	Visible and on accessible route from entrance door[8, 9], ideally through a straight-line path[18]					
16		Signage	Simple appropriate signage and well located for easy orientation from the entrance to the reception[8, 18, 20]					
17	Information	Queue management	Adapted desk continuously open[30] • Visual and audible queue management system • Speech synthesis or presence of an employee at all times[8] • Indications on welcoming individuals with physical disabilities[34]					
18		Mobility equipment/aids	Possibility to rent them at the entrance (reception)					

12 Tables and chairs

Instruments necessary for measure

› Additional Information

- Ischial supports may constitute interesting solutions even for people standing in places where there is little space, in order to still provide rest areas [16]
- Provide larger seats or seats with foldable armrests [20]

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
1	Table	Manoeuvring area	Free, firm, and level of ≥ 800 x 1350 mm [9]					
2		Clearance	Height: ≥ 680 mm (or have an adjustable height) with extension ≤ 100 mm of supports [9]					
3			Width: ≥ 750 mm [9]					
4			Depth: ≥ 480 mm, can overlap the clear floor area [9]					
5		Height - surface	730-860 mm [9]					
6			950-1100 mm for persons standing [20]					
7		Contrast	Between the furniture and the environment: • ≥ 70% with the walls and the floor [33] • Addition of a contrasting stripe on the desk's periphery [8]					
8			Surface: Glare-free [8]					
9			Medium-coloured surface (contrasting with light/dark objects) [33]					
10		Lighting	Surfaces dedicated to reading and filling of documents: ≥ 200 lux in the room and 350-450 lux on the surface [20] Otherwise ≥ 200 lux [20]					
11	Seat	Seat surface	Stable [9]					
12			Detectable base on the ground at a height of ≤ 300 mm [16]					
13			Height: 450-500 mm [9, 16]					
14			Depth: 400-450 mm [16]					
15			Angle: 100-105°. Avoid seats that are too inclined with the backrest [16]					
16			Shape: Avoid curved seat (slip, instability), flexible or slippery. Favour rounded corners [16]					
17			Base: Not exceeding the seat [16]					
18			Colour: Contrasted with the immediate environment [16]					

Instruments necessary for measure

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
19	Seat	Backrest	Dense [16]					
20			Height from : ≥ 680 mm [9]					
21		Armrests	• Offer a variety of options, with or without [9, 16, 35] • Foldable armrests at row ends [16, 20]					
22			Height starting from the floor: 220-300 mm above the seat [20]					
23			Set back from the front of the seat: ≥ 75 mm [20]					
24		Space under the seat	Set back under the seat: ≤ 150 mm [20]					

Instruments necessary for measure

› Additional information on accessible routes:

- The end of a hallway can be signalled by a contrasted colour on the perpendicular wall [36]
- Tactile direction indicators should be used in large open floor areas, such as shopping malls or transportation terminals, to facilitate wayfinding by indicating the main circulation routes.[9] It can be relevant to add handrails on each side of hallways [8] (see section on Hand- and Guardrails)
- For lineup guides: Ensure a coherent and homogeneous implantation [30]
- Provide convex mirrors enabling a better visibility in places where the visual field may be obstructed [8]

› Additional information for lighting accessibility:

- Favour a glare-free ambient lighting (150 lux) which shines upwards with added task lighting (300 lux) on information or significant elements [8]
- Lighting should be uniform, being that light sources should be evenly distributed in the lit volume without creating shadow areas [20, 37]
- Depending on the room's orientation and the presence of a glaring effect, consider the use of blinds, shades, curtains, filtering films or sun shade outside.[30] Prevent glare by controlling backlight effects[8]
- Consider colour temperature by prioritizing neutral white lighting ranging between 4000-5000 K [36]
- Light sources (bulbs) should not be visible [20, 36]
- For direct lighting, provide louvres, deflector grid or a shield [20, 37]
- Lighting in hallways should be in the same direction as the circulation in order to facilitate wayfinding [20]
- Lighting that is switched on by motion detector is not the ideal solution for individuals with visual disabilities given the possible sudden glare. Lighting should be triggered at a certain distance from the light source to provide an adaptation period [30]

› Additional information for acoustic accessibility:

- Reduce noise to the lowest possible (both from outside and inside the building) [8, 16, 20], the presence of a separation/buffer zone can be useful [20]
- Good acoustics shall be achieved by optimizing the reverberation time, by considering the use/purpose of the room and by ensuring a low background noise level. It is necessary to determine the optimum reverberation time on the basis of the volume and the intended purpose of the room [20]
- The geometry and shape of the room, as well as the distribution of absorbing and reflecting surfaces constitute important elements. It is necessary to pay keen attention to the choice of sound absorbing surfaces as well as the choice of surfaces that reflect it. It is possible to cover floors and ceilings with sound absorbent surfaces in order to develop an effective acoustic environment[20]

Instruments necessary for measure

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
1	Accessible routes	Free and level manoeuvring area	• Outside: ≥ 2250 x 2250 mm[9] • Stationary position: ≥ 800 x 1350 mm[9] • For a U-turn (180°): ≥ 1500 x 1500 mm[9, 16, 20] • Forward and side approach: ≥ 1350 x 1350 mm[9]					
2		Running slope	≤ 5% (1:20)[8, 9]					
3		Cross slope	≤ 2% (1:50)[9]					
4		Surface	Firm, stable and slip-resistant even if wet[8, 9, 16]					
5			Without opening (slot)[8] • Where there are openings: The wider opening ≤ 13 mm[9, 10, 22] and perpendicular to the direction of the circulation[8, 9]					
6			Without step and without abrupt level change[8] • Where there is a level change, step or ramp: Passageway signalled by marking as presenting handrails • Elevation of 0-6 mm can be vertical[9] • Elevation of 7-13 mm: Bevelled, but ≤ 50% (1:2)[9] • Elevation ≥ 13 mm: ≤ 8.33% (1:12)[9]					
7			Without unstable carpet[9] • Where there is a carpet: Low, firm piles/loops, securely fastened, of a height of ≤ 13 mm[9] • Avoid dark colours[37]					
8		Width	• 1200 mm, ideally ≥ 1800 mm[8, 20] • For short narrowing of the path ≤ 600 mm in length: ≥ 810 mm[9] • For a door: ≥ 810 mm[9] • For U-turn bypassing an obstacle < 1200 mm wide: ≥ 1100 mm[9] • Where the hallway is < 1800 mm wide: Avoiding area 1800 mm wide and < 1800 mm long at reasonable intervals[9] • Where circulation is high: ≥ 1500 mm[9] • For aisles: ≥ 920 mm[9]					
9		Dimensions for turns	• At 90°: ≥ 1200 x 1200 mm[20] • At 180°: ≥ 2000 mm (in the direction of the route), ≥ 1500 mm wide[20]					
10			Convex mirrors should be installed at junctions[9]					
11		Free height	≥ 2100 mm[20]					

Instruments necessary for measure

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
12	Accessible routes	Contrast	Colour-contrasted (≥ 70%) with surrounding objects [8, 9] • Medium to dark shade (e.g. medium grey) • Non complex patterns not confusing for individuals with visual disabilities [9, 29, 38]					
13		Finish	Glare-free finish [8, 9, 16, 37]					
14		Lighting	Uniform, continuous, and glare-free located on the circulation area: ≥ 200 lux with luminous transitions ≤ 300 lux [9]					
15		Orientation guides	Stable, do not move easily and cane-detectable at a height of ≤ 680 mm [9]					
16			Clear floor area where there are changes in direction and where they begin and end: ≥ 1500 x 1500 mm [9]					
17			Width between guides: ≥ 920 mm [9]					
18	Tactile tiles	Location	• Along the full width of a potential hazard [9] • At elevation and direction changes (domes) [9] • On an unprotected edge where the elevation change > 250 mm or the slope > 33% (1:3) [9] • Waiting areas of public transports stops [30] • To spot the elevator call buttons or a shop entrance [30]					
19		Shape of plates	Square [9]					
20		Width	600-650 mm [9]					
21		Height of domes	5 ± 1 mm [9]					
22		Diameter at the base	10 ± 1 mm larger than the diameter at the upper part [9]					
23		Distance between the axis of domes	Where the diameter at the base is of 22 mm: 55-61 mm [9] Where the diameter at the base is of 25 mm: 57-63 mm [9]					
24		Specifications for a step	Slip-resistant and at the level of the nearby surface, therefore not rendering the step dangerous due to an irregular surface [9]					
25		Contrast	≥ 70% with the colour of the nearby surface [9] • If yellow: Contrast ≥ 40% with the nearby surface [9]					
26			Contrast with a minimum reflectance value of the lighter surface of 50 points [20] • If integrated units: ≥ 30 points [20] • If discrete units: ≥ 40 points [20] • If warning against a hazard: Difference in light reflectance value ≥ 50 points and the reflectance value of the lighter surface ≥ 60 points [20]					

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
27	Tactile direction indicator	Width	250 - 300 mm[9]					
28		Clear space on each side	≥ 600 mm[9]					
29		Shape	Stretched bars parallel to the route[9]					
30	Tactile direction indicator crossing a path signalling an installation or a diverging route	Width	600 - 650 mm[9]					
31		Shape	Stretched bars placed in the direction leading to the installation or the diverging route[9]					
32			A tactile direction indicator should be made up of flat, parallel and stretched bars[9]					
33			Height: 5 ± 1 mm[9]					
34			Width at the upper part: 17-30 mm[9]					
35			Width at the base: 10 ± 1 mm larger than the upper part's width[9]					
36			Distance between axis with adjacent bars[9] • Where the bars' width is of 17 mm: 72-78 mm Spacing at the base: 27 mm • Where the bars' width is of 20 mm: 73-80 mm Spacing at the base: 30 mm • Where the bars' width is of 25 mm: 75-83 mm Spacing at the base: 35 mm • Where the bars' width is of 30 mm: 80-85 mm Spacing at the base: 40 mm					
37			Length at the upper part: ≤ 270 mm[9]					
38			Length at the base: 10 ± 1 mm longer than the upper part's lenght[9]					
39			Distance between the edges of the parallel bars: ≤ 30 mm[9]					
40			Perpendicular strips between them: • At junctions: Juxtapose the strips by implanting a square tactile surface feature larger than the strips (≥ 600 x 600 mm)[30]					
41		Contrast	≥ 70% with the nearby colour and should not be yellow[9]					
42		Where water can accumulate	Installed in a way that the bars are separated by a drainage space of a width of 20-30 mm[9]					

Instruments necessary for measure

› Additional information on accessible routes:

- The end of a hallway can be signalled by a contrasted colour on the perpendicular wall [36]
- Provide convex mirrors enabling a better visibility in places where the visual field may be obstructed [8]

› Additional information for light accessibility:

- Favour a glare-free ambient lighting (150 lux) which shines upwards with added task lighting (300 lux) on information or significant elements [8]
- Lighting should be uniform, being that light sources should be evenly distributed in the lit volume without creating shadow areas [20, 37]
- Depending on the room's orientation and the presence of a glaring effect, consider the use of blinds, shades, curtains, filtering films or sun shade outside. [30] Prevent glare by controlling backlight effects [8]
- Consider colour temperature by prioritizing neutral white lighting ranging between 4000-5000 K [36]
- Light sources (bulbs) should not be visible [20, 36]
- For direct lighting, provide louvres, deflector grid or a shield [20, 37]
- Lighting in hallways should be in the same direction as the circulation in order to facilitate wayfinding [20]
- Lighting that is switched on by motion detector is not the ideal solution for individuals with visual disabilities given the possible sudden glare. Lighting should be triggered at a certain distance from the light source to provide an adaptation period [30]

› Additional information for acoustic accessibility:

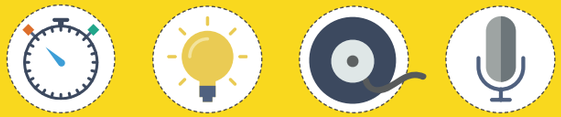
- Reduce noise to the lowest possible (both from outside and inside the building) [8, 16, 20], the presence of a separation/buffer zone can be useful [20]
- Good acoustics shall be achieved by optimizing the reverberation time, by considering the use/purpose of the room and by ensuring a low background noise level. It is necessary to determine the optimum reverberation time by taking into consideration the volume and the intended purpose of the room [20]
- The geometry and shape of the room, as well as the distribution of absorbing and reflecting surfaces constitute important elements. It is necessary to pay keen attention to the choice of sound absorbing surfaces as well as the choice of surfaces that reflect it. It is possible to cover floors and ceilings with sound absorbent surfaces in order to develop an effective acoustic environment [20]

Instruments necessary for measure

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
1	Walls	Surface	Smooth to avoid any risk of injury [38]					
2			Matt and non-reflective and avoid glass walls [15, 28] • Where there is a glass wall: Horizontal fluorescent in the dark strips/motifs, contrasting (≥ 70%) of ≥ 50 mm of width at a height of 1350-1500 mm [9]					
3			Absence of full length mirrors [8]					
4		Contrast (≥ 70%)	Between the walls and the ceiling [36] • Where the walls and the ceiling are of similar colours: Add a contrasting moulding					
5			Between the walls and the floor [8, 36] • Where the walls and the floor are of similar colours: Add contrasting baseboards					
6			Between the walls and the doors [36] • Where the walls and the doors are of similar colours: The door frame should be contrasted					
7			With accessories/obstacles (equipment, furniture, commands and services) and surrounding structures [8, 36]					
8		Colouring	Pastel tones and different depending on the floors with a high light reflection index, avoid white (glare) for walls, but favour it for ceilings (maximize reflection) [36]					
9			No big motifs nor overload of colours [15]					

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
1	Obstacles	Signage	• All architectural barriers should be signalled with a contrasting stripe (≥ 70%) of 100 mm around their perimeter or on each of their sides at a height of 1200-1400 mm on a length > 1/3 of their width [36] • Poles < 1300 m high should be signalled by a colour contrast of their upper part [36]					
2		Clearance and detectability	• Absence of obstacle in the circulation area [8, 9] • Object(s) located on the same side • Protruding at a height < 350 mm or > 1980 mm [8, 9], ideally ≥ 2030 mm [9] • Protruding ≤ 100 mm [8, 9, 10, 15, 20, 22] at a height of 350-1980 mm2, 3 [8, 9] • Protruding ≥ 100 mm: Detectable at a height of 680 mm [9]					
3		Warning feature	Shielded obstacles to protect against shocks and accompanied by a feature that warns of the presence of a potential hazard and is detectable [20] and placed at ≥ 600 mm from the obstacle [8]					

Instruments necessary for measure



› **Additional Information:**

- Install benches close to a staircase[15]
- The depth steps should be greater to compensate for the hazard of snow and ice accumulation[8]

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
1	Signage	Location	Where it is not visible from the entrance[30]					
2		Floors	Numbering at each floor[8] (see section on Signage)					
3	Stairwells	Location	Perpendicular to circulation[8, 15] Set back from circulation area[15]					
		› Where the underside is open, it should have the following characteristics:						
4		Contrast	Contrasted underside[9]					
5		Partitioned	Ground cue[8] (height: 400 mm[30]) of contrasting colour (≥ 70%) limiting circulation where the clear height < 2030 mm[13, 19]					
		› Where the staircase is located in an open area (not enclosed)[20], at each landing incorporating an entrance into a stair system[9], where the regular pattern of the stairway is broken[9] or where the flight to a landing is > 2100 mm[9] without a handrail, install a warning strip having the following characteristics:						
6		Location	On upper and lower landings of each flight of stairs across the entire width of the staircase[20]					
7			Distance with respect to the first descending step: 300-500 mm[20]					
8		Depth	600 - 650 mm[9]					
9	Flights of stairs	Number of steps	Ideally odd (avoid systematic rise of the same foot)[8] : ≤ 16 risers[20] • Where the surface is limited ≤ 20 risers[20]					
10		Dimensions	Unify the dimensions of flights and steps[8]					
11			Favour changes of direction at 90° to preserve spatial orientation[8]					
12		Width	≥ 1200 mm[20]					
13		Surface	Slip-resistant and hard[8]					
14			Non-reflective[8]					
15			Without patterned carpet[8]					

Instruments necessary for measure

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
16	Landings	Location	At the top and bottom of each flight of stairs[8]					
17		Width	Same as the one of the steps or greater (top and bottom of each flight)[8]					
18		Length	≥ to the flight width[8] • If it is a straight staircase: ≥ 1100 mm[8]					
19		Contrast	Between the landings and the top and bottom steps of a flight of stairs[20] with a continuous strip of 40-50 mm on the anterior edge of the tread of each step that may be set back ≤ 15 mm in front of nosing, covering the riser over ≤ 10 mm[20] *** Alternative solution: Contrasted strip of 50-100 mm on the tread of the first and last steps of the flight[20]					
20	Risers	Configuration	Closed risers[9, 16, 20, 21, 23, 24]					
21		Angle	≥ 60°[10]					
22		Height	Constant: ≤ 180 mm[9]					
23	Steps	Depth	Constant[8, 9], step per step[8] (≥ 280 mm) [9, 10, 11, 21, 22] ***Use deeper steps where there is much space[8, 9]					
24		Contrast	Of uniform colour, non-reflective[14] and contrasting [36]					
25	Nosing	Surface	Hard and slip-resistant[9, 30]					
26		Shape	• Rounded[8] • Bevelled[8] and of a height ≤ 38 mm and not a trip hazard on the underside[9, 14, 30] • If protruding: Tilt towards the riser at an angle > 60° with the horizontal plane[9]					
27		Radius of curvature	≤ 13 mm[9]					
28		Horizontal strip	Depth: 50 ± 10 mm of a contrasting colour (≥ 70%)[8, 30] with tread and riser across the entire width of tread[9]					
29	Lighting		At the top and bottom of each flight: 200 lux[20]					
30			Between the flights: 150 lux[20]					
31	Security	Light alarm	Beacon or strobe type in stairwells[8]					

Instruments necessary for measure

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
› If it is an outdoor staircase, add :								
32	Outdoor staircase	Slope and Flights	≤ 8 % (1:12)[8] or Where the slope is ≥ 1:12 (8%), with a drop-off of < 2 m and for which no other trail is possible: 3-5 steps, interrupted with landings[8]					
33		Landings	Every ≤ 3700 mm of height measured vertically, for slopes ≥ 35% (1:3)[8]					
34		Risers	Slightly opened to limit snow and ice accumulation[8]					
35			Slight slope towards the back (1:50 - 2%) in order to facilitate drainage[8]					

Instruments necessary for measure

#	Elements	Components	Criteria	Actual measures	Absent	Compliance	Observations and modifications
1	Bottom landing[9, 10]	Surface	Level and free from obstacles[8, 20]				
2		Dimensions	≥ 1800x1800 mm[8]				
3	Slopes	Running slope	• 5-6.7% (1:20-1:15)[9] Where there is space limitation: • If < 9m of length: Slope ≤ 8.33% (1:12)[8] • If ≥ 9m of length: Slope ≤ 6.25% (1:16)[8]				
4		Cross slope	< 2 % (1:50)[9, 20, 39]				
5	Dimensions of the level intermediate landing	Location	Every 9m[8, 9] and where there are changes in direction[9, 10]				
6		Surface	Level and free from obstacles[8, 20]				
7		Dimensions: ≥ than the largest ramp leading to it[9]	• ≤ 9m of length without change in direction[8, 9] • Ramp without change in direction > 9 m: Intermediate landing(s) of a length ≥ 1200 mm[8] • L-shaped ramp: Intermediate landing(s) ≥ 1800 x 1800 mm[8] • U-shaped ramp: Intermediate landing(s) ≥ 2200 x 2200 mm[8]				

8	Clear width		• Single ramp:
			  • Interior: ≥ 920 mm[9, 20]
			  • Exterior: ≥ 1200 mm[8, 9, 20]
			• Double ramp (2 lanes in width): ≥ 2200 mm (intermediate handrail) and space between handrails < 1650 mm[8]				

9	Edges	Height	Where the ramp/landing is not at the same level as the ground nor bordered by a wall[8] : ≥ 75 mm[9], each side of the ramp[8]				
10	Top landing[9, 10]	Surface	Level and free from obstacles[8, 20]				
11		Dimensions	≥ 1800x1800 mm[8]				
12	Ground surface	Contrast on the ground	70% (visual) / materials (tactile) at the beginning and end of the ramp[8, 19]				
13		Where there is a change in gradient	Colour contrasting strip of a width of 50 ± 10 mm extending on the full width of the ramp[9]				
14		Surface	Slip-resistant for the ramp and the landings[8, 9, 20, 23, 24]				

Instruments necessary for measure

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
15	If the landing leads to a door	Clearance on handle side	• If it opens towards the user: > 750 mm [8] • If it opens in the direction opposite to the user: > 300 mm [8]					
16		Manoeuvring area	Diameter of ≥ 1800 mm out of the door opening area [8]					
17	Weather protection [8]	Free height	≥ 1980 mm					
18		Obstacle	• Not impeding on the circulation area of the ramp					
19			• Not hindering the use of handrails					
20			• Not limiting the level of lighting					
21	Lighting		Continuous, glare-free, and uniform [8] : ≥ 150 lux with luminous transitions ≤ 300 lux [9, 19]					

› Additional Information

- Mandatory where the slope of the ramp has a height of ≥ 150 mm
- Any staircase of ≥ 3 steps should have an handrail on each side, an intermediate handrail[11] or a central handrail if the width > 2.4 m[14]
- Presence of hand- and guardrails where the drop has a height ≥ 600 mm[8, 20]
- Avoid obstacles on the edge of handrails[8]
- Handrails' resistance: ≤ 1.3 kN applied in all directions[9]

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
1	Handrails	Location	1 handrail on each side[8, 9, 21, 23, 24] at a height of 860-920 mm[9]					
			› Where there is a staircase					
2			At 90° with the steps and no spiral staircase[8, 20]					
3		Shape	• Circular with an outside diameter of 30-40 mm[9] • Elliptical with an outside perimeter of 100-125 mm, with the biggest section ≤ 45 mm[9]					
4		Fixation	Underneath (continuous grip)[8, 9] • Staircase: Continuous on the inner side and around landings ≤ 2100 mm of length, except where the landing is intersected by an alternative access route or has an entry door[9]					
5		Clear width between handrails	• Single ramp: • Interior: ≥ 920 mm[9, 20] • Exterior: ≥ 1200 mm[9, 20] • Double ramp (2 lanes in width): ≥ 2200 mm (intermediate handrail) and space between handrails < 1650 mm[8] • Simple staircase: ≥ 1000 mm[20] • Double staircase: Intermediate handrail where the width of the passage is > 2400 mm[16]					
6		Horizontal extension (flat)	Continuous with handrail of 300 mm at extremities[8, 9, 20, 21, 23, 24] (staircase: at a distance of 1 tread with respect to the last step[9]) and turned down ends (detectable : ≤ 680 mm[9]), a post/towards the wall[8, 9]					
7		Distance handrail - wall	• If the wall surface is smooth: 35-45 mm[9] • If the wall surface is rough: 45-60 mm[9] • If the handrail is in a recess: Handrail extending ≥ 450 mm above the handrail[9]					
8		Contrast	Colour-contrasted (≥ 70%) with the walls and the ramp/staircase[8, 9, 16, 19]					
9		Texture	Non-rough surface[8], without protruding elements[9] and not conveying cold nor heat[8, 9]					
10	Guardrail	To be installed if	Height of drop ≥ 600 mm: Protections from that place[20]					
11		Configuration	Vertical, full, without horizontal bar[8]					
12			Openwork sections not allowing objects ≥ 100 mm[8] diameter to pass					

Instruments necessary for measure

› Additional Information

- Avoid tactile screen or touchscreen controls [30]
- Surface materials that a user can be allergic to include nickel, chromium, cobalt and natural or synthetic rubber; these materials should not be used in buttons, controls, handles or handrails [20]
- Where the cab dimensions do not allow the rotation of a wheelchair user, a device (e.g. a small mirror) shall be installed to enable the user to observe obstacles located behind him when exiting the cab backwards. The glass of the mirror should be a safety glass [20]
- Place a mirror facing the door with its lower edge at 600 mm and its upper edge at ≥ 1200 mm in order to enable wheelchair users to see the configuration of the hall in which they are entering as well as the potential obstacles [20]
- Operating force needed to activate the emergency device - two-way communication system: ≥ 2.5 N [20]

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
1	Elevators	Manoeuvring area	Clear and level in front of the elevator (at the entry and exit) [20] : • ≥ 1500x1500 mm [8, 16, 20] ideally 1800 x 1800 mm					
2		Stopping accuracy	≤ 13 mm [8, 9, 22] at the entry and the exit					
3		Door width	≥ 915 mm [8, 9, 21, 22] • Where the door is centered: 1065 mm [9, 21, 22]					
4		Door opening time	≥ 5 seconds [9] between the opening and when it begins to close					
5		Activation time of the door mechanism	≥ 20 seconds [9, 22] (with the possibility to close the cab doors from the inside)					
6		Cab dimensions	• Where the door is centered on the cab wall: 2030 x 1295 mm [9], ideally 1700 mm [8] • Where the door is not centered on the cab wall: 1725 x 1295 mm [9], ideally 1400 mm [8]					
7		Cab floor	Hard and slip-resistant [8, 9, 10, 20, 21, 22]					
8		Surfaces	Matte and non-reflective [8, 9, 10, 20, 21, 22]					
9		Contrast	Surfaces and devices of the cab should be visually contrasted as compared to the rest, including the door and its frame [9, 30] and between the floor and the walls [8]					

Instruments necessary for measure

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
10	Elevators	Handrails	On three sides[8, 16]					
11			Shape: • Circular with an outside diameter of 30-40 mm[9] • Elliptical with an outside perimeter of 100-125 mm, biggest section ≤ 45 mm[9]					
12			Height: 800-920 mm[8, 9, 10, 21]					
13			Space between handrail and panel: 35-40 mm[8, 9, 20, 21, 26]					
14			Contrast: ≥ 70% with the walls and the floor[8, 9, 16, 19]					
15			Texture: Non-rough surface[8], without protruding elements[9]					
16		Lighting	Uniform of ≥ 100 lux on the ground (avoid spotlights)[8, 9, 20, 21]					
17		Folding seat (If elevator for > 10 floors)[16]	Height: 500 ± 20 mm[20]					
18			Depth: 300-400 mm[20]					
19			Width: 400-500 mm[20]					
20			Resistance: ≥ 100 kg, ideally 200 kg[20]					
21	Signage	Audible	Where there are many elevators, indicate the one that will open using a sound and light signal[30]					
22			Audible speech synthesis[10, 16] indicating the floor number[8] and its destination[9, 21, 22] of 10-80 dB,≥ 10 dB above ambient noise[8]					
23			Beeping sound, audible inside as well as outside the cab, signalling the opening of the doors and the elevator's direction of 10-80 dB, ≥ 10 dB above ambient noise[8] • 1 beep to go up and 2 beeps to go down[8]					
23		Visual	Signage of each floor at all the floors outside and inside the cab on the external jamb of the sliding door[19] at a height of 1500 mm[8]					
25			Colour-contrasted signage with the background (≥ 70%)[8]					
26			Braille signage [8, 16, 19] At a distance < 10 mm from the signage[19]					
27			Colour-contrasted Braille signage with the background (≥ 70%)[8]					
28			Indications on the ground at the entry of the elevator[20]					
29		Light indicator	Diameter: ≥ 60 mm[8]					
30			• Centered above the doors and height of the centre at 2-2.4 m[8] • On the exterior frame of the door and height of the centre at 1500[8] ± 100 mm					

Instruments necessary for measure

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
31	Controls at landing(s)	Distance from any adjacent corner/wall	≥ 500 mm, ideally 600 mm[20]					
32		Height	900-1200 mm, ideally 1100 mm[20]					
33		Diameter	≥ 20 mm[8], ideally 30 mm[16]					
34		Location	• 1 elevator: Control on the right if space allows it[8] • > 1 elevator: Controls centered between the doors[8]					
35			Upward button located above downward button[8]					
36		Type	Recessed / touch button not sinking at ≥ 9 mm[8]					
37		Signage	Raised pictogram (≥ 1.5 mm) on the colour contrasting button (≥ 70%) indicating the function of the button[8]					
38		Lighting	• Completely lit rearward[8, 30] • Rim of the button is lit[16]					
39			Luminescent during the call and off at the opening of the doors[8]					
40		Operability	Operable with a fist without torsion of the wrist					
41		Required force	Require little force (use of 2 fingers)[40]					
42	Cab controls	Distance from any adjacent corner/wall	≥ 400 mm[8], ideally 500 mm[20]					
43		Height	900-1200 mm, ideally 1100 mm[20]					
44		Diameter	≥ 20 mm[8], ideally 30 mm[16]					
45		Type	Recessed / touch button not sinking at ≥ 9 mm[8]					
46		Signage	Arabic numerals[8, 9, 20, 21, 22] Raised (≥ 1.5 mm)[8] on the colour contrasting button (≥ 70%)[8, 30] indicating the function of the button[8]					
47			Braille signage[8, 9, 20, 21, 22] on the button[8]					
48		Lighting	• Completely lit rearward[8, 30] • Rim of the button is lit[16]					
49			Luminescent during the call and off at the opening of the doors[8]					

Instruments necessary for measure

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
50	Cab controls	Surface	Non-reflective (controls and plate of the panel)					
51		Operability	Operable with a fist without torsion of the wrist					
52		Required force	Require little force (use of 2 fingers) [40]					
53	Security	Emergency button (including two-way communication)	Located at the base of the panel at a height ≤ 890 mm [8]					
54			Diameter: ≥ 20 mm [4], ideally 30 mm [16]					
55			Type: Recessed / touch button not sinking at ≥ 9 mm [8]					
56			Signage: Raised pictogram (≥ 1.5 mm) on the colour contrasting button (≥ 70%) indicating the function of the button [8]					
57			Braille signage [8, 9, 20, 21, 22] on the button [8]					
58			Lighting: • Completely lit rearward [8, 30] • Rim of the button is lit [16]					
59			Operability: Operable with a fist without torsion of the wrist					
60			Required force: Require little force (use of 2 fingers) [40]					
61		Telephone or videophone	Centered at a height ≤ 1200 mm equipped with a cord ≥ 915 mm [8] • Where the telephone is behind a door: It can be opened with a fist without torsion of the wrist and require little force (use of 2 fingers)					
62		Emergency device - two-way communication system	Permanently connected to a security station ensuring a bidirectional communication with a response service or the person in charge of safety of the building [20]					
63			Provide visual and audible information feedback to passengers confirming that the request for emergency assistance has been sent, using a yellow lit bell-shaped symbol, and that it has been received [20]					
64			Light alarm of beacon or strobe type inside the cab to signal a fire alarm in the building [8]					

› Information supplémentaire

- Additional Information: Used exclusively to transport persons (not goods)[8]

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
1	Exterior	Manoeuvring area	Free and level of a diameter of ≥ 1500 mm[16]					
2	Threshold	Height	≤ 13 mm at the entry and at the exit					
3	Doors	Largeur	≥ 865 mm					
4	Cab dimensions		• Where the same door is used for entry and exit: ≥ 1500x1500 mm[38] • Where different doors are used for entry and exit: ≥ 1400x865 mm[38]					
5	Surfaces	Ground surface	Hard and slip-resistant					
6		Surface	Matte non-reflective surfaces					
7	Edge protectors	Height	≥ 1065 mm[38]					
8		Surface	Smooth, hard and continuous protections[20]					
9	Controls	Type	Maintained pressure (push-button / toggle switch) coming back to off position if released[8]					
10		Height	900 - 1200 mm, ideally 1100 mm					
11		Diameter	≥ 20 mm					
12		Operability	Operable with a fist without torsion of the wrist					
13		Required force	Require little force (use of 2 fingers)					
14	Information		Accessible and easy-to-understand operating mode and security measures[8] (see assessment Signage)					
15	Lighting		Uniform of ≥ 100 lux on the ground (avoid spotlights)					
16	Security	Emergency button	Centre at a height of ≤ 890 mm					
17		Communication	Equipped with a communication system available in the event of failure[8]					

21 Manoeuvring devices

Instruments necessary for measure

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
1	Manoeuvring devices (switches, electrical outlets, etc.)	Manoeuvring area in front	Clear and level for front and side approach : ≥ 1350 x 1350 mm[9]					
2		Distance of an interior angle	≥ 600 mm, ideally 700 mm [20]					
3		Height of controls	900-1100 mm [8, 9] • Where they are on a horizontal surface: 800-900 mm and at 300 mm from the edge of the surface[8]					
4		Height of display	1200-1400 mm					
5		Information	Easy-to-understand controls, not requiring special knowledge[20] and providing tactile and audible information[9]					
6			Contrast: ≥ 70% with the adjacent wall or surface[8, 38]					
7		Controls' operability	Operable with one hand[8, 9], not requiring tightening, pinching or torsion of the wrist[9]					
8		Lighting	≥ 100 lux[9] • Where reading is necessary: 200 lux[9]					

22 Equipment

Instruments necessary for measure

› **Additional information on access to equipment:**

- Force required to operate a drinking fountain: Little force, 19.5 N[20]. Force required for other equipment: > 22 N[8,9]

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
1	Drinking fountain	Number	≥ 1 accessible equipment per equipment type (≥ 1 fountain/floor)[8]					
2		Signage	Identification of the presence/location[8] from the entrance of the building[20]					
3			Cane-detectable from the floor[9]					
4		Manoeuvring area	800 x 1350 mm[9]					
5		Clear space	Between the equipment and the adjacent wall: ≥ 300 mm[8]					

6		Fixation	• Recessed[9]
			• Positioned in a way that it does not impede on the access route[9] and having the following characteristics:
			  • Protruding at ≤ 100 mm into circulation area when the front edge is located at a height of 350-1980 mm[8]
			  • Detectable with a cue on the ground[8]					

7		Contrast	Of a contrasting colour (≥ 70%) with the nearby surfaces (walls, floor)[8, 9]					
8			Absence of glare or reflection on the surfaces[8, 20]					
9		Lighting	Uniform, continuous and glare-free of ≥ 300 lux[8]					
10		Clearance	Width: ≥ 750 m[9]					
11			Depth: ≥ 200 mm[9]					
12			Height: ≥ 680 mm[9]					
13		Water flow control	Allow to adjust the water flow and height of the stream[9]					
14			• In front of the unit[8, 9], above the unit, the spout height must be appropriate • On the side at < 150 mm from the front[38]					
15			Operability: Should not be operated by foot[9] and operable with a fist without torsion of the wrist[8]					
16		Spout	In front of the unit[8, 9] or on the sides[9]					
17			Height: 750-900 mm[9]					
18		Stream	Parallel with the front of the unit[8, 9] accessible at < 100 mm from the front					
19			Height: 100 mm[8, 9]					

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
20	Automatic teller machine	Number	≥ 1 accessible equipment per equipment type (≥ 1 fountain/floor)[8]					
21		Signage	Identification of the presence/location[8] from the entrance of the building[20]					
22			Cane-detectable from the floor[9]					
23		Manoeuvring area	Free and level of ≥ 1500 mm^2 (square), ideally 1800 mm^2 (square)					
24		Clear space	Between the equipment and the adjacent wall: ≥ 300 mm[8]					

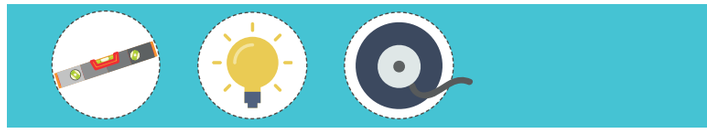
25		Fixation	• Recessed[9]
			• Positioned in a way that it does not impede on the access route[9] and having the following characteristics:
			  • Protruding at ≤ 100 mm into circulation area when the front edge is located at a height of 350-1980 mm[8]
			  • Detectable with a cue on the ground[8]					

26		Contrast	Of a contrasting colour (≥ 70%) with the nearby surfaces (walls, floor)[8, 9]					
27			Absence of glare or reflection on the surfaces[8, 20]					
28		Lighting	Uniform, continuous and glare-free of ≥ 300 lux[8]					
29		Signage	Tactile graphic symbols on the surrounding surface representing the card and identifying the orientation for its insertion[20]					
30			Audible and visual signals indicating that access has been granted[20]					
31			Indicator lights identifying the different operations to be carried out (card, envelope, statement, booklet)[8]					
32		Clearance	Absence of a low shelf in front of the machine[8]					
33		Slots	Height: 800-1100 mm, ideally 800-900 mm[20]					
34			With a bevelled edge[20]					
35			Colour contrast ≥ 70% with the surrounding surface[20]					
36		Keypad	Absence of keyguards					
37			Height: 800-1100 mm readable from a standing and a seated position[20]					
38			Colour contrast: Keypad with the background[16, 20]					
39			Colour contrast: Characters with the keys[16, 20]					
40			Digits: Aligned from left to right and set out in a square shape where the "0" is under the 8[16]					
41			Digit "5" at the centre with a raised marking[16]					

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
42	Automatic teller machine	Screen	Centered					
43			Height of the centre: ≤ 1200 mm[8]					
44			Contrasts facilitating reading[8]					
45			Simple sans serif fonts					
46		Headphone plugs	For the use of speech synthesis[8]					
47		Grab bar[8]	When used to stand, allow the person to be centered in front of the screen of the automated teller machine of 900 ± 100 mm					
48		Desk	Presence of an accessible desk to write[8] (see section on Desk)					
49		Helpline[8]	Indication of a helpline telephone number[8] with a signage having the following characteristics: • Characters of ≥ 22 mm[8] • Having a matte finish and being well-lit (≥ 300 lux)[8] • Simple sans serif fonts[8] • Key message (avoid sentences)[8]					
50	Telephone	Number	≥ 1 accessible equipment per equipment type (≥ 1 fountain/floor)[8]					
51		Signage	Identification of the presence/location[8] from the entrance of the building[20]					
52			Cane-detectable from the floor[9]					
53		Manoeuvring area	Free and level of ≥ 1500 mm^2 (square), ideally 1800 mm^2 (square)					
54		Clear space	Between the equipment and the adjacent wall: ≥ 300 mm[8]					

55		Fixation	• Recessed[9]
			• Positioned in a way that it does not impede on the access route and having the following characteristics:
			  • Protruding at ≤ 100 mm into circulation area when the front edge is located at a height of 350-1980 mm[8]
			  • Detectable with a cue on the ground[8]					

56		Contrast	Of a contrasting colour (≥ 70%) with the nearby surfaces (walls, floor)[8, 9]					
57			Absence of glare or reflection on the surfaces[8, 20]					
58		Lighting	Uniform, continuous and glare-free of ≥ 300 lux[8]					



#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
59	Telephone	Adaptive equipment	Where a public telephone is equipped with a teletypewriter (TTY) or a telecommunication device for the deaf (TDD), it should be identified by the pictogram for a TTY [9]					
60		Location	Near an accessible route or linked to an accessible route [9, 20]					
61			Outside of noise and electromagnetic interferences [8]					
62			On a firm, stable and slip-resistant surface [9, 16]					
63			Nearby movable chair/armchair					
64		Coin slot	Height: ≤ 1200 mm [8]					
65		Keypad	Keypad (TTD) [8] and function keys compliant with CSA T516 [9]					
66			Height: ≤ 1100 mm [20]					
67			Keys' background and writing of contrasting colours (≥ 70%) [38]					
68			Tactile cue on digit 5 [16, 20]					
69		Volume	Progressive volume control [8] compliant with CAN/CSA-T515 [9]					
70		Cord	Length: ≥ 1000 mm [9]					
71		Shelf – phone book	Width: ≥ 450 mm [9]					
72			Depth: ≥ 300 mm [9]					
73			Height: 730-860 mm [9]					
74		Clearance for telephone for seated persons	Width: 800 mm [9]					
75			Depth: 1350 mm [9]					
76			Knee clearance of 680-730 mm which may extent to ≤ 480 mm under the shelf [9]					

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
77	Trashcans, bins, ashtrays	Number	≥ 1 accessible equipment per equipment type (≥ 1 fountain/floor)[8]					
78		Signage	Cane-detectable from the floor[9]					
79			Free and level of ≥ 1500 mm² (square), ideally 1800 mm² (square)					
80		Manoeuvring area	Between the equipment and the adjacent wall: ≥ 300 mm[8]					

81		Clear space	• Recessed[9]
			• Positioned in a way that it does not impede on the access route[9] and having the following characteristics:
			  • Protruding at ≤ 100 mm into circulation area when the front edge is located at a height of 350-1980 mm[8]
			  • Detectable with a cue on the ground[8]					

82		Fixation	Of a contrasting colour (≥ 70%) with the nearby surfaces (walls, floor)[8, 9]					
83		Contrast	Absence of glare or reflection on the surfaces[8, 20]					
84			Uniform, continuous and glare-free of ≥ 300 lux[8]					
85		Lighting	Near an accessible route[9]					
86		Location	Fixed on the floor, a post or the wall[9]					
87		Configuration	Opening or lid at a height of ≤ 1060 mm[9]					

› **Additional Information:**

- Grab bars' resistance: 1.3 kN applied in all directions[8, 9], ideally 1.7 kN[20]
- Weight carried by the changing bench: Weight carried: 250 kg[9]

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
1	Locker room	Pathway	Free from obstacles of a width of ≥ 1065 mm					
2		Manoeuvring area	Free and level of ≥ 1500 mm[8, 16], ideally ≥ 1700 mm[8]					
3		Surfaces	Slip-resistant floor: ≥ 4m[20]					
4			Coat hangers, benches, handles and other hardware: Matte and colour and hue contrast with the background[20]					
5		Hook	Near the seats					
6			At different heights of 850-1100 mm, in addition to ≥ 1 hook at a height of 1800 mm[20]					
7			Protruding: ≤ 40 mm[9]					
8		Mirror	Lower edge at a height of ≤ 1 m[8]					
9		Lockers (a few accessible lockers[2])	Free and level manoeuvring area in front of a diameter of ≥ 1500 mm					
10			Height of the average horizontal line of the locker number: 1500[8] ± 100 mm (see section on Signage)					
11			Height of the handle/lock: 800-900 mm[16]					
12			Operability: Operable with a fist without torsion of the wrist[38]					
13			Height of shelves: 400-1200 mm[38]					
14			Height of the hooks: 850-1100 mm[20]					
15			Depth: ≤ 600 mm[16]					
16		Changing bench	Smooth surface, without sharp edges and easy to clean[9]					
17			Width of the clear space on the full length in front of the bench: > 900 mm[9]					
18			Depth: ≥ 760 mm[9]					
19			Length: ≥ 1830 mm[9]					
20			Height: 480-520 mm[9]					

23 Locker rooms and toilets

Locker rooms

Instruments necessary for measure

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
21	Locker room	Horizontal bar for the changing bench	Slip-resistant					
22			Surface: Grab bar and adjacent surfaces free from any protruding or abrasive element [9]					
23			Shape: Tubular of a diameter of 30-40 mm [8, 9]					
24			Distance with respect to the wall: 35-45 mm [8, 9]					
25			Does not rotate within its fittings [9]					
26			Location of accessories does not hinder its use [20]					
27			Length: ≥ 1200 mm [9]					
28			Centered in the direction of the length of the bench [9]					
29			Fixed at a height of 750-850 mm [9]					
30			Contrast: • ≥ 70% with the walls and the floor [9] • Chromed striated grab bar framed with a contrasting colour behind (white/yellow) following the lines of the bar [9]					
31	Alarm	Accessibility	From the seats of the locker room, shower or toilet [20]					
32		Connected to	• An emergency assistance service [20] • A place allowing the intervention of a member of the staff [20]					
33		Feedback indicating the triggering	Visual and audible to indicate that the emergency call has been received and that action has been taken [20]					
34		Bracelets	2 red bracelets of a diameter of 50 mm having the form of a cord [20]					
35			One placed at 800-1100 mm [20]					
36			The other at 100 mm [20]					
37		Control reset to zero (error)	Visible and tactile [20]					
38			Lower edge at a height of < 800-1100 mm [20]					
39		Visual alarm	Alerts deaf/hard-of-hearing people in case of emergency [8, 16, 20]					

24 Locker rooms and toilets

Toilet, changing and shower stalls

Instruments necessary for measure

› **Additional Information:**

- Resistance of grab bars and seats: 1.3 kN applied in all directions[8, 9], ideally 1.7 kN[20]
- Force required to open/close the door and activate the locking mechanism: Require little force (use of 2 fingers)[40]
- Force required to operate the taps and the dispensers: Require little force (use of 2 fingers)

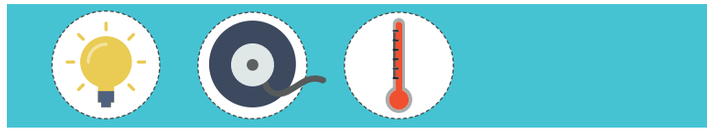
#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
1	Stalls	Number	≥ 1 adapted stall and 5% of the total number of the stalls present, rounded up to the superior unit[16] • In a specialized institution: ≥ 10% of the total number of the stalls present, rounded up to the superior unit[16]					
2		Information	Signage clearly identifying the accessible stall using an understandable pictogram (see section on Signage)					
3		Manoeuvring area in front of the stall	Free and level not occupied by the door's opening area of ≥ 1500 x 1500 mm[9]					
4		Separation	Curtain/door not impeding on the access to taps/transfer areas[9, 20]					
5		Opening	Width: ≥ 865 mm[8]					
6			Height: ≥ 1980 mm					
7		Threshold	Height: ≤ 13 mm[9], ideally without a threshold[8, 16, 20] • Where it measures > 13 mm of height: Bevelled ≤ 50% (1:2)[9, 21, 22, 24]					
8		Lighting	Uniform, continuous, glare-free: ≥ 200 lux[8] with luminous transitions ≤ 300 lux					
9	Stall door	Opening	Door opening outward[8, 9]					
10			Self-closing (at rest: door ajar at ≤ 500 mm)[9]					
11		Exterior handle[8] (side opposite to hinges (latch side))	"D"-type handle ≥ 140 mm of length mounted horizontally[9]					
12			Height: 800-1000 mm[9]					
13			Centre at 120-220 mm on the latch side[9]					
14			Operability: Operable with a fist without torsion of the wrist[40]					
15			Contrasted (≥ 70%) with the door (colour, finish)					

24 Locker rooms and toilets

Toilet, changing and shower stalls

Instruments necessary for measure

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
16	Stall door	Interior handle Horizontal	"D "-type handle ≥ 140 mm of length mounted horizontally[8, 9]					
17			Height: 800-1000 mm[9]					
18			Centre at 200-300 mm from hinges [8, 9]					
19			Operability: Operable with a fist without torsion of the wrist [40]					
20			Contrasted (≥ 70%) with the door (colour, finish)					
21		Locking mechanism	Activated from the inside, but can be unlocked from the outside in case of an emergency [8, 9]					
22			Height: 900-1000 mm					
23			Operability: Operable with a fist[8] without torsion of the wrist					
24	Changing room and shower stall vestibule	Free and level manoeuvring area	• Changing room: ≥ 1500 x 1500 mm [8] • Shower stall vestibule: ≥ 900 (width) x 1500 mm (depth)[8]					
25		Hooks	One located near the seat[8]					
26			Another mounted on the sidewall[8]					
27			Height: 1200 mm [8]					
28			Protruding: ≤ 40 mm[9]					
29			Contrasted (≥ 70%) with the wall or on a plate of contrasting colour					
30		Seat	Self-draining, slip-resistant, stable, without a spring mechanism and foldable upwards [20]					
31			Height: 430-480 mm[9], ideally height adjustable [20]					
32			Width: ≥ 450 mm [8, 20]					
33			Depth: ≥ 450 mm [20]					
34			Rounded front corners of a radius between 10-15 mm [20]					
35			Rounded top edges of radius of ≥ 2-3 mm[20]					
36			Distance from rear wall: ≤ 40 mm [20]					
37			Contrasted (≥ 70%) with the walls					



#	Elements	Components	Criteria	Actual measures	Absent	Compliance	Observations and modifications
38	Changing room and shower stall vestibule	Horizontal grab bar adjacent to the seat (ideally on the longitudinal wall of the stall)	Slip-resistant				
39			Surface: Grab bar and adjacent surfaces free from any protruding or abrasive element [9]				
40			Shape: Tubular of a diameter of 30-40 mm [8, 9]				
41			Distance with respect to the wall: 35-45 mm [8, 9]				
42			Does not rotate within its fittings [9]				
43			Location of accessories does not hinder its use [20]				
44			Length: ≥ 900 mm [8]				
45			Height of the centre: 750 mm [8]				
46			Mounted in a way as to extend ≥ 300 mm towards the wall on which the seat is mounted [8]				
47			Contrast: • ≥ 70% with the walls and the floor [9] • Chromed striated grab bar framed with a contrasting colour behind (white/yellow) following the lines of the bar [9]				
48		Vertical grab bar adjacent to the seat (ideally on the longitudinal wall of the stall)	Slip-resistant				
49			Surface: Grab bar and adjacent surfaces free from any protruding or abrasive element [9]				
50			Shape: Tubular of a diameter of 30-40 mm [8, 9]				
51			Distance with respect to the wall: 35-45 mm [8, 9]				
52			Does not rotate within its fittings [9]				
53			Location of accessories does not hinder its use [20]				
54			Length: ≥ 750 mm [8]				
55			Height of the bottom: 900 mm [8]				
56			Mounted at a distance of 300 mm from the front of the seat [8]				
57			Contrast: • ≥ 70% with the walls and the floor [9] • Chromed striated grab bar framed with a contrasting colour behind (white/yellow) following the lines of the bar [9]				

24 Locker rooms and toilets

Toilet, changing and shower stalls

Instruments necessary for measure

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
58	Shower	Free and level manoeuvring area	Outside the shower: ≥ 900x1500 mm[9]					
59			Inside the shower: ≥ 900x1500 mm[9]					
60		Transfer area	Width: ≥ 1350 mm from the axis of the seat[16]					
61			Depth: ≥ 1300 mm[16]					
62		Gradient of interior recess	With respect to the floor drain: 1.67-2% (1:50-1:60)[20]					
63		Gradient of the exterior part of the recess	1.25-1.43% (1:70-1:80) draining towards the shower recess[20]					
64		Seat	Self-draining, slip-resistant, stable, without a spring mechanism[8] and foldable upwards[20]					
65			Height: 430-480 mm[9], ideally height adjustable[20]					
66			Width: ≥ 450 mm[8, 20]					
67			Depth: ≥ 450 mm[20]					
68			Rounded front corners of a radius between 10-15 mm[20]					
69			Rounded top edges of radius of ≥ 2-3 mm[20]					
70			Distance from rear wall: ≤ 40 mm[20]					
71			Contrasted (≥ 70%) with the walls					
72		Vertical grab bar on the wall of the seat	Slip-resistant					
73			Surface: Grab bar and adjacent surfaces free from any protruding or abrasive element[9]					
74			Shape: Tubular of a diameter of 30-40 mm[8, 9]					
75			Distance with respect to the wall: 35-45 mm[8, 9]					
76			Does not rotate within its fittings[9]					
77			Location of accessories does not hinder its use[20]					
78			Length: ≥ 1000 mm[9]					
79			Height of lower end: 600-650 mm[9]					
80			Mounted at a distance of 50-80 mm from the beginning of the wall[9]					
81			Contrast: • ≥ 70% with the walls and the floor[9] • Chromed striated grab bar framed with a contrasting colour behind (white/yellow) following the lines of the bar[9]					

Instruments necessary for measure

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
82	Shower	Vertical grab bar on the wall adjacent to the seat (Can carry the flexible shower head [9, 20])	Slip-resistant					
83			Surface: Grab bar and adjacent surfaces free from any protruding or abrasive element [9]					
84			Shape: Tubular of a diameter of 30-40 mm [8, 9]					
85			Distance with respect to the wall: 35-45 mm [8, 9]					
86			Does not rotate within its fittings [9]					
87			Location of accessories does not hinder its use [20]					
88			Length: ≥ 1000 mm [9]					
89			Lower edge at 50 to 60 mm above the horizontal grab bar [9]					
90			Mounted at 400-500 mm from the wall of the seat [9]					
91			Contrast: • ≥ 70% with the walls and the floor [9] • Chromed striated grab bar framed with a contrasting colour behind (white/yellow) following the lines of the bar [9]					
92		Horizontal grab bar on the wall adjacent to the seat	Slip-resistant					
93			Surface: Grab bar and adjacent surfaces free from any protruding or abrasive element [9]					
94			Shape: Tubular of a diameter of 30-40 mm [8, 9]					
95			Distance with respect to the wall: 35-45 mm [8, 9]					
96			Does not rotate within its fittings [9]					
97			Location of accessories does not hinder its use [20]					
98			Length: ≥ 1000 mm [9]					
99			Height of the centre: 750-850 mm [9]					
100			Contrast: • ≥ 70% with the walls and the floor [9] • Chromed striated grab bar framed with a contrasting colour behind (white/yellow) following the lines of the bar [9]					

24 Locker rooms and toilets

Toilet, changing and shower stalls

Instruments necessary for measure

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
101	Shower	Horizontal grab bar on the wall facing the seat	Slip-resistant					
102			Surface: Grab bar and adjacent surfaces free from any protruding or abrasive element [9]					
103			Shape: Tubular of a diameter of 30-40 mm [8, 9]					
104			Distance with respect to the wall: 35-45 mm [8, 9]					
105			Does not rotate within its fittings [9]					
106			Location of accessories does not hinder its use [20]					
107			Length: ≥ 600 mm [9]					
108			Height of the centre: 750-850 mm [9]					
109			Contrast: • ≥ 70% with the walls and the floor [9] • Chromed striated grab bar framed with a contrasting colour behind (white/yellow) following the lines of the bar [9]					
110		Taps	Type : • Single lever (long or not) [20] • Automatic action operable with a fist without torsion of the wrist [20]					
111			• Location: Within the reach of the seat [9] without torsion and flexion of the torso • Where outside of the stall at a height > 1200 mm [9, 10] at the centre of the rear wall, above the grab bar [9]					
112			Water temperature: ≤ 49°C [20, 22] • Identification : Of different (blue, red) contrasting colours (≥ 70%) [38] and tactile information [38] • Automatic/press-button tap without adjustment [38]					
113			Hand-held shower head: sliding on a vertical stem [8, 20]					
114			Hand-held shower head that can be used as fixed shower head, mounted vertically and adjustable at a height of 1200-2030 mm without obstructing the grab bars [9]					
115			Flexible hose: ≥ 1800 mm [9]					
116		Soap dish, bottle holders, dispensers	Recessed in the wall [8]					
117			Height of the mechanism: 920 ± 100 mm on the wall adjacent to the seat [8]					
118			Of contrasted colour (≥ 70%) with walls					
119			Operability: Operable with a fist without torsion of the wrist					
120		Waste outlet	Central [20]					
121			Round type and not hollow (stability of shower seat) [20]					

› Additional Information

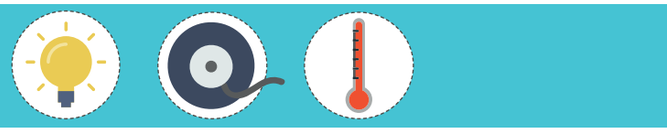
- Ideally, toilets are located at the same place at all floors [37]
- Force required for the flush, taps, soap dispenser and accessories: Require little force (use of 2 fingers)
- Grab bars' resistance: 1.3 kN applied in all directions [8, 9] ideally 1.7 kN [20]

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
1	General	Number	Number of adapted stalls per sanitary bloc: ≥ 1 and 5% of the total number of stalls present, rounded up to the superior unit [16] • Specialized institution: ≥ 10% of the total number of stalls present, rounded up to the superior unit [16]					
2		Location	Distance without obstacle to cover to reach a toilet: ≤ 45 m [8]					
3		Information	Orientation signage indicating the toilets in all the parts within the premises or the building [20] • Where the toilet is not accessible: Indicate the location of the closest accessible toilet					
4		Door	Aligned with the transfer space adjacent to the toilet [8, 9]					
5		Hooks	Mounted on a sidewall [8, 9]					
6			Height: 1200 mm [8, 9, 21] ideally another at 1600 mm [8]					
7			Protruding: ≤ 40 mm [9]					
8			Contrasted (≥ 70%) with the wall or on a plate of contrasting colour					
9		Lighting	Uniform, continuous and glare-free on circulation areas: ≥ 150 lux with luminous transitions ≤ 300 lux					
10			Uniform, continuous and glare-free in the stall or near the toilet: ≥ 200 lux with luminous transitions ≤ 300 lux					

Instruments necessary for measure

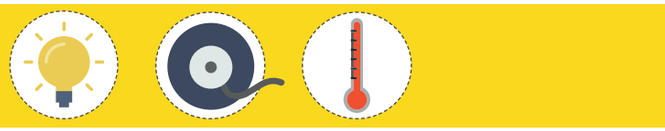
#	Elements	Components	Criteria	Actual measures	Absent	Compliance	Observations and modifications
11	Universal toilet stall	Manoeuvring area	Free and level [2] with a space ≥ 1500 x 1500 mm [9, 10, 16, 21]				
12		Distance between opposite walls	≥ 1700 mm [9]				
			OR				
13	Toilet stall (see section on Stalls)	Clear space in the stall	• Where the entry door is in front of the door of the stall(s): Clear space of ≥ 1700 mm between the doors of the stall(s) and the entry door [8, 9] • Where the door of the stall(s) is in front of urinals, another stall or a counter: Clear space of ≥ 1400 mm [8]				
14		Dimensions of the stall	Width: 1700 mm [8] • With a caregiver: ≥ 2 m [41]				
15			Depth: ≥ 1800 mm [8] • With a caregiver: 2.40 m [41]				
16		Transfer area	Width: ≥ 900 mm [9]				
17			Length: ≥ 1500 mm on its open side [9]				
18	Toilet	Location	Distance between the front edge of the toilet seat and the rear wall: 650-800 mm [20]				
19			Distance between the axis and an adjacent wall: 460-480 mm [9, 20]				
20		Seat	Does not come back up due to spring force [8, 9]				
21			Height: 430-485 mm [9]				
22			Length: 500-550 mm [9, 16]				
23			Presence of a backrest [8, 9] • Where there is a tank, the lid should be securely attached [9]				
24			Cover colour: Dark colour on white sanitary appliances [37]				
25		Flush	• Automatic control [8, 9] • Manual control using a device placed on the transfer side of the toilet [8, 9]				
26			Height: 800-1100 mm [16]				
27			Distance with respect to a wall: 350-450 mm [16]				

Instruments necessary for measure



#	Elements	Components	Criteria	Actual measures	Absent	Compliance	Observations and modifications
28	Toilet	Toilet paper	Fixed on the sidewall as close as possible to the toilet[8]				
29			Toilet paper dispenser: In line with the front of the toilet seat[9]				
30			Height: 600-700 mm[9, 20]				
31			Protruding: ≤ 150 mm from the wall[8]				
32			Operability: Operable with a fist without torsion of the wrist[40]				
33			Where there is the presence of a lady care sanitary bin: Reachable from the toilet seat without torsion of the trunk. Non-touch opening mechanisms are recommended[20]				
› A vertical grab bar can be added on the wall adjacent to the toilet, of a length of ≥ 600 mm at ≤ 250 mm in front of the toilet seat at a height of 900-1500 mm[9] › A retractable grab bar can be added on the same side of the toilet as the transfer area and meet the same criteria as the grab bar on the sidewall closest to the toilet[9] or in the absence of an adjacent wall[8]							
34	Toilet	Horizontal grab bar on the sidewall closest to the toilet	Slip-resistant[8]				
35			Surface: Grab bar and adjacent surfaces free from any protruding or abrasive element[9]				
36			Shape: Tubular of a diameter of 30-40 mm[8, 9]				
37			Distance with respect to the wall: 35-45 mm[8, 9]				
38			Does not rotate within its fittings[9]				
39			Location of accessories does not hinder its use[20]				
40			Height: 750-850 mm[9]				
41			Distance from the rear wall: ≥ 300 mm[9]				
42			Distance in front of the seat: < 450 mm[9]				
43			Contrast: • ≥ 70% with the walls and the floor[9] • Chromed striated grab bar framed with a contrasting colour behind (white/yellow) following the lines of the bar[9]				

Instruments necessary for measure



#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
44	Toilet	Horizontal grab bar on rear wall	• Where there is 1 bar: Centered with respect to the toilet and of a length of ≥ 600 mm [8, 9] • Where there are 2 bars: Placed on each side of the flush at a distance of ≤ 150 mm and of a length of ≥ 300 mm [9]					
45			Slip-resistant [8]					
46			Surface: Grab bar and adjacent surfaces free from any protruding or abrasive element [9]					
47			Shape: Tubular of a diameter of 30-40 mm [8, 9]					
48			Distance with respect to the wall: 35-45 mm [8, 9]					
49			Does not rotate within its fittings [9]					
50			Location of accessories does not hinder its use [20]					
51			Height: 750-850 mm [9]					
52			Contrast: • ≥ 70% with the walls and the floor [9] • Chromed striated grab bar framed with a contrasting colour behind (white/yellow) following the lines of the bar [9]					
53	Urinal	Manoeuvring area	Free and level in front of the urinal of a width of ≥ 800 mm and a depth of ≥ 1350 mm [9, 20]					
54		Fixation	Detached from the ground and without a raised access platform [8, 20]					
55		Height	Lower rim: ≤ 430 mm [9, 24, 38] and ≥ 1 at a height of ≥ 380 mm [20]					
56			Upper rim: ≤ 860 mm [9]					
57		Markers	Width: ≥ 50 mm centered on the urinal [9]					
58			Extend at a height ≥ 1300 mm [9], but never < 150 mm above the upper part of the urinal [9]					
59		Contrast	Visually contrasting with the wall on which it is mounted [9, 20]					

Instruments necessary for measure

#	Elements	Components	Criteria	Actual measures	Absent	Compliance	Observations and modifications
60	Urinal	Vertical grab bars on each side [9, 20]	Slip-resistant				
61			Surface: Grab bar and adjacent surfaces free from any protruding or abrasive element [9]				
62			Shape: Tubular of a diameter of 30-40 mm [8, 9]				
63			Distance with respect to the wall: 35-45 mm [8, 9]				
64			Does not rotate within its fittings [9]				
65			Length: ≥ 600 mm [8, 9]				
66			Height of the lower extremity: 1000 mm [9]				
67			Distance from the centre of the urinal: ≤ 380 mm [9]				
68			Contrast: • ≥ 70% with the walls and the floor [9] • Chromed striated grab bar framed with a contrasting colour behind (white/yellow) following the lines of the bar [9]				
69		Flush	Automatic [9] or with a lever operable with the fist				
70	Sink area	Manoeuvring area	Free and level of a width of ≥ 800 mm and a depth of 1350 mm, of which ≤ 480 mm can be underneath the sink [9]				
71		Clearance underneath the sink	Width: ≥ 750 mm [9]				
72			Depth: ≥ 200 mm [9, 20]				
73			Height: ≥ 680 mm [9]				
74			Insulated pipes (covered) [8] connected rearward [9]				
75		Clearance for the feet	Width: ≥ 750 mm [9]				
76			Depth: ≥ 230 mm [9]				
77			Height: ≥ 230 mm [8, 9]				
78		Location of the sink	Distance between the centre of the sink and a sidewall: ≥ 460 mm [8, 9]				
79			Distance between the front edge of the sink and the wall: 350-600 mm [9]				
80			Height: 810-860 mm [9]				
81		Dimensions of the sink's bassin	≥ 600 x 600 mm [16]				

Instruments necessary for measure

#	Elements	Components	Criteria	Actual measures	Absent	Compliance	Observations and modifications
82	Sink area	Taps (Avoid mixing or pressure valves)[8]	Type: Not requiring a torsion of the wrist[8, 9] • With single lever • With electronic control • With long lever				
83			Height: 920 ± 100 mm				
84			Distance from the front edge of the counter: ≤ 485 mm				
85			Force required having the following characteristics: • No application of a constant force to maintain the water flow[9] • Not operated by foot				
86			Where there is a timer: Duration of the flow of ≥ 10 seconds[9]				
87			Water temperature: ≤ 49°C[9, 38]				
88			Identification: • Contrasting colours (≥ 70%) different (blue, red) and tactile information to differentiate them[38] • Automatic faucet • Press-button without adjustment				
89		Soap dispenser (Non-touch dispensers are recommended)[20]	Height of control: ≤ 1100 mm[9, 20]				
90			• Near the sink on a sidewall[8] • At < 500 mm from a person sitting near the sink[9]				
91			Operable with a fist without torsion of the wrist[35]				
92			Operable with one hand to receive soap on the palm[9]				
93		Changing table	Clear space on the counter of a width of ≥ 900 mm[8] or wall-mounted table				
94		Mirror	Not tilted nor full-length[9]				
95			Bottom edge at a height ≤ 1000 mm[8, 9, 21, 24, 38]				
96		Contrast	Furnishing contrasting with the floor (counter, trashcan)[9]				
97			Sink contrasting with the counter[9]				
98		Accessories (dryer, trashcan, dispenser, etc.)	Height of the operable part: 800-1100 mm[20]				
99			Operability: Operable with a fist without torsion of the wrist				
100		Lighting	200 lux (measured at a height of 800 mm above the floor)[20]				
101			Absence of timed light switches[20]				

26 Room and auditorium

Instruments necessary for measure

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
1	Room and auditorium	Ground surface	Path leading to an accessible seat and at the front without step [38]					
2		Presenter: board and desk	Free and level manoeuvring area of ≥ 1500 x 1500 mm [38]					
3		Lectern/Table	• Adjustable height • Presence of an accessible table (see section on Table)					
4		Stage and backstage	Accessible from an accessible ramp [5, 8]					
5		Width of aisles	• Where it is a an auditorium: ≥ 2400 mm [20] • Where it is a room with tables: ≥ 1065 mm [28]					
6		Hearing enhancement device	Where it is an auditorium, at all the seats, including the ones in front of the stage (e.g. induction loops, systems of transmission of infrared signals) [20]					
7			Where it is a room of more than 50 seats: Presence of a height-adjustable or portable microphone [28]					
8		Lighting	Uniform, continuous and glare-free on the adapted seats: ≥ 200 lux with luminous transitions ≤ 300 lux					
9			Adjustable control of lighting on the presenter: ≥ 300 lux [8, 28]					
10			Lighting on the faces and hands of actors, and people using sign language interpretation at an angle of 45-50° from horizontal at ceiling level for people with a hearing impairment and contrasted backdrop [20]					

27 Library and resource centre

Instruments necessary for measure

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
1	Library and resource centre	Signage of book-shelves	Average line at a height of 1500 ± 100 mm (see section on Signage)					
2		Manoeuvring area	Free and level of ≥ 1500 x 1500 mm at the end of aisles [38]					
3		Aisles	Width: ≥ 1200 mm [38]					
4		Shelves	Height: 400-1200 mm [38]					
5		Book-shelves' lighting	Continuous and uniform: ≥ 200 lux with luminous transitions ≤ 300 lux					

› **Additional Information:**

- Force required to operate the vending machines: Activation requires little force (use of 2 fingers)

#	Elements	Components	Criteria	Actual measures	Absent	Compliance		Observations and modifications
1	Vending machines	Signage	Double the information written in Braille or in an audible manner (for single-use buttons) [16]					
2		Height - device to be handled	• Where they are at 250-600 mm from the edge of the counter: ≤ 1m [38] • Where they are close to the edge of the counter: 380-1200 mm [38]					
3		Operability	Operable with a fist without torsion of the wrist					
4	Pass-through	Direct between the employee and the user	Tray slide of which the top is at a height of ≤ 865 mm [38]					
5			Depth: < 485 mm [38]					
6			Clearance (see section on Desk)					
7	Cash counter	Orientation	Counter visible and accessible from the entrance					
8		Register's display	Directed towards the customer					
9			Background and writing of price on the register of a contrasting colours (≥ 70%)					
10			Simple sans serif fonts ≥ 22 mm					
11			Matte finish and well-lit: ≥ 200 lux					
12		Credit/debit card terminal	Display with background and writing of contrasting colours (≥ 70%)					
13			Simple sans serif fonts ≥ 22 mm					
14			Matte finish and well-lit: ≥ 200 lux					
15			Absence of keyguards					
16			Control buttons with background and writing of contrasting colours (≥ 70%)					
17			Presence of tactile cues on control buttons					
18			Presence of a colour code for possible operations					

29 Accessible seats

Instruments necessary for measure

#	Elements	Components	Criteria				Actual measures	Absent	Compliance		Observations and modifications
1	Accessible seats	Number	Integrate these spaces to other seats and allow two wheelchair users to stay together [8, 20]								
2			› Movable seats [9]		› Fixed seats [8]						
			total # of seats	# of adapted seats	total # of seats	# of adapted seats					
			4-25	1	2-100	2					
			26-50	2	101-200	3					
			51-150	4	201-300	4					
			151-300	5	301-400	5					
			301-500	6	401-500	6					
			501-5000	6 + 1 per 150, or fraction of this figure	For every additional 400 seats: add an additional non-fixed seat						
			> 5000	36 + 1 per 200, or fraction of this figure	Where it is an auditorium with fixed seats: ≥ 15 foldable or removable seats [20]						
3			Some places are free from seats for wheelchair users or presence of seats that are not fixed to the ground [22]								
4		Interpreter	Available space for a sign language interpreter at a row in front of the adapted seats without the latter being in the walkway [20]								
5		Location	Adjacent to access routes, near emergency exits and dispatched through all the seating zones at all accessible levels adjacent to the other seats [9, 16, 20]								
6			Adapted zone delimited by a colour (≥ 70%) and ground texture contrast								
7			Where it is an auditorium, the seats should have the following characteristics: • Adapted seats marked as accessible • Row and seat numbers: Readable with a tactile indicator, of an adequate dimension and a sufficient visual contrast with relation to the background [20]								
8		Ground surface	Clear and level [20]								
9		Surface area	≥ 900 x 1400 mm [20]								
10		Visibility line	Should not be obstructed by people standing [16] (view of the front of the room and the presenter, if need be), similar to that of other seats [9, 20]								
11			Minimum unobstructed eye level ≥ 1200 mm [20]								

MEA

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Measure of accessibility
of urban infrastructures
for adults with physical
disabilities

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