

10 Elevators and Lifts

10.1 General



To ensure access for everyone, every building containing more than one floor level shall have an elevator or stair lift. Where stairs are located to provide access to varying levels or where there are any large changes in elevation where a ramp would be required to have more than two switch-backs and landing combinations, a lift or elevator should also be provided.



Elevators shall be provided on an accessible route and shall comply with Appendix E of CSA Standard CAN/CSA-B44. (OBC 3.7.3.5.(1)) Levelling and lifts shall comply with CSA. **Freight elevators are not acceptable.**



10.1.1 The elevator shall be automatic and be provided with a two-way automatic-maintaining levelling device to maintain the floor level to +/-13 mm. *Uneven floor levels can cause people who use wheelchairs to become trapped, and are a tripping hazard for all, especially people with mobility or visual impairments.*

10.2 Elevator Doors and Operation

Power-operated horizontally-sliding car and landing doors with a minimum clear width of 910 mm, opened and closed by automatic means shall be provided. From the time the doors start to open, a minimum period of 7 seconds shall elapse before the doors start to close if it is a hall call, and 5 seconds if it is a car call.

10.2.1 Doors shall be provided with a door-reopening device that will function to stop and reopen a car door and an adjacent hoist-way door to at least 910 mm, in case the car door is obstructed while closing. This reopening device shall also be capable of sensing an object or person in the path of a closing door at a nominal 125 +/-25 mm and 735 +/-25 mm above the floor without requiring contact for activation. Door-reopening devices shall remain effective for a period of not less than 20 seconds.

10.3 Car Inside



The floor area of elevator cars shall provide space for people who use wheelchairs to enter, manoeuvre within reach of the controls and exit. The minimum distance between the walls, or between walls and a door, shall be not less than 1725 X 1370 mm (**although a minimum of 1500 mm for distance between any wall is recommended to provide the minimum turning radius**).

Where the depth of an elevator makes it difficult for a wheelchair user to turn around, provide a mirror on the rear wall to allow the user to see the floor indicators.

Escalators are not considered a safe means of barrier-free travel.

10.4 Car Controls

To allow for independent operation, controls should be within reach ranges of persons who use a wheelchair and should have tactile or braille provided on the control panel to assist people who are visually impaired. (See Figure 10.1)

A clear floor space, 750 X 1200 mm, shall be located immediately in front of the control panel to provide sufficient manoeuvring space to allow someone to position themselves and access the controls. It should not be situated immediately in the corner as this prevents access.

Controls shall be readily accessible from a wheelchair upon entering an elevator. Emergency controls and door-operating buttons shall be grouped together at the bottom of the control panel. The centreline of the alarm button and the emergency stop switch shall be not less than 890 mm from the floor. The centreline of the highest floor button shall be no higher than 1370 mm from the floor, with consideration that some people with disabilities have a decreased reach range or dexterity limitations. High contrasting symbols shall be used to assist in readily identifying essential controls.



10.4.1 Controls should be grouped sequentially and should not switch from one side to the other. Control numerals and symbols should contrast with their background.



10.4.2 Floor registration buttons shall be a minimum 19 mm in size and they should be raised.

10.4.3 Arabic numerals shall be adjacent on the left of the floor buttons on a contrasting colour background. Markings shall be a minimum of 16 mm high and raised a minimum of 0.75 mm. Permanently attached plates are acceptable.

10.5 Car Position and Call Indicators

An indicator shall be provided in the car to show the position of the car in the hoist-way, by illuminating the indication corresponding to the landing at which the car is stopped or passing. Indication characters shall be on a contrasting colour background and a minimum of 16 mm in height.

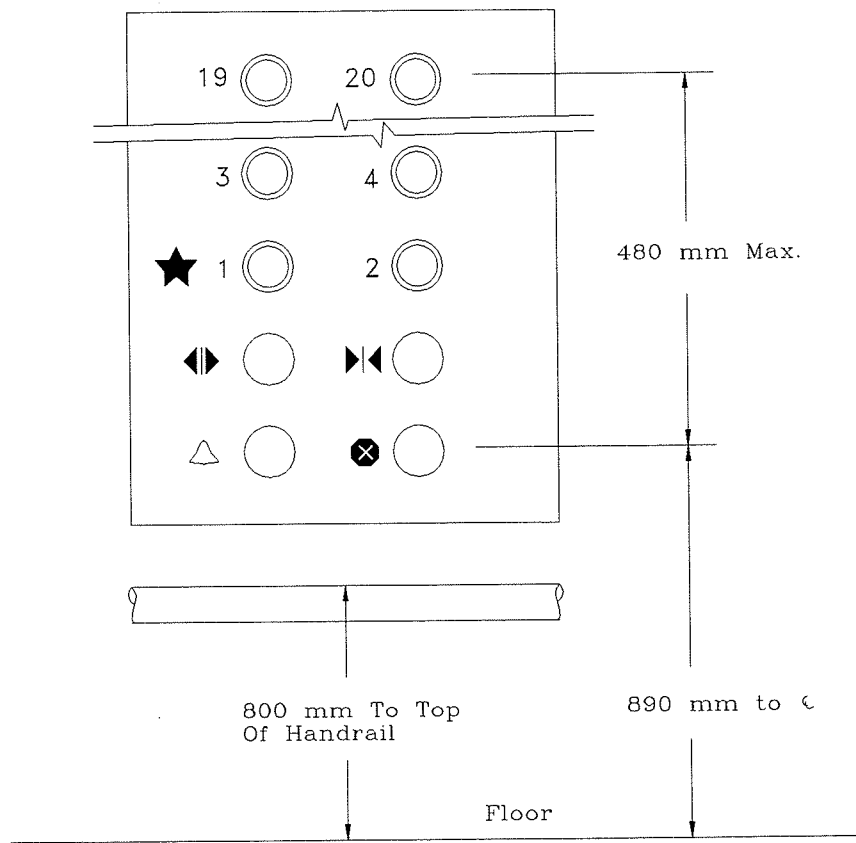


Visual and momentary audible indication shall be provided to show each call registered and visual indication shall be extinguished when the call is answered. An audible signal shall be provided when the elevator stops at the landing.



10.6 In-car Telephone

In-car telephones should be provided that connect with a permanently staffed office.



Car Controls

FIGURE 10.1
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10.6.1 The telephone shall be located a maximum of 1220 mm from the floor with a minimum cord length of 900 mm.

- 10.6.2 Telephones shall be equipped with a receiver that
- generates a magnetic field in the area of the receiver cap,
 - has a volume control; and
 - complies with CSA Standard CAN3-T515-M85(R1992).



10.6.3 The telephone should be available in an easily opened cabinet or enclosure. The international symbol for telephones shall be located on the telephone cabinet or enclosure in a contrasting colour. The symbol shall be a minimum of 38 mm high and raised a minimum of 0.75 mm. Permanently attached plates are acceptable.



10.7 Floor Covering

The floor shall have a firm and slip-resistant surface that permits easy movement of wheelchairs. Carpets should be firmly secured. Refer to Section 2 General Requirements for allowable floor covering materials.

10.8 Handrails

People who have difficulties in balance and ambulatory limitations depend a great deal on handrails in elevators. Handrails in elevators should be graspable.



Handrails shall be provided on all non-access walls at a height between 800 and 920 mm with a space of 35-45 mm between the rails and wall.

10.9 Illumination

The illumination at the car controls, telephone and landing sill shall be not less than 100 lux. **200 lux is preferred.**



10.10 Hall Call Buttons

The centreline of the hall call buttons shall be 1070 ± 25 mm above the floor. Buttons shall be a minimum of 20 mm in size, well-contrasted and mounted one above the other.

Clear floor space of at least 750 X 1200 mm should be provided in front of the hall call buttons.

Visual indication shall be provided to show each call that is registered and extinguished when the call is answered.



10.11 Hall or In-Car Lanterns



Hall or in-car lanterns shall be provided. The centreline of the fixture shall be a minimum of 1830 mm above the floor. Visual elements shall be a minimum of 60 mm in the smallest direction.

10.12 Floor Designations



Well-contrasted arabic numerals a minimum of 50 mm high and raised at least 0.75 mm shall be placed on both sides of the door jambs, with the centre line at 1500 ± 25 mm from the floor to identify the floor level.

10.13 Other Considerations



In addition to the above requirements of Appendix E of CSA Standard B44, the following is preferred:



- a) that as the car passes or stops at a floor, an audible signal sound inside the elevator at a minimum of 20 dB at a frequency no higher than 1500 Hz;
- b) that there be a colour contrast between the car sill and the building floor, between the door frame and the wall, and on the floor designations;
- c) that a convex mirror be installed at a high level at the rear of the cab;
- d) that the area around the call buttons be kept clear of plants, furniture, etc.; and
- e) that a second car position indicator be added at eye level.

10.14 Elevating Devices



Elevating devices for persons with disabilities, for security reasons, are often kept locked. Although some people may be given keys or a telephone number may be provided, assistance is necessary. These conditions often prevent barrier-free access and should be discouraged. Unless such lifts are kept unlocked during peak use times or are under constant supervision by an operator, they can be useless to persons with mobility impairments.

Stair lifts or platform lifts can be used in low traffic areas to provide access between levels, although a vertical lift is preferred.

Elevating devices such as platform lifts, shall comply with CSA Standard CAN/CSA-B355. (OBC 3.7.3.5.(2))