

Division 10 --- DOORS

37. The requirements of this Division apply to doors on accessible routes.

MANDATORY SECTION

Performance Objectives

Doors and doorways shall be designed to enable all people especially wheelchair user to enter and leave any room unaided or without undue difficulties.

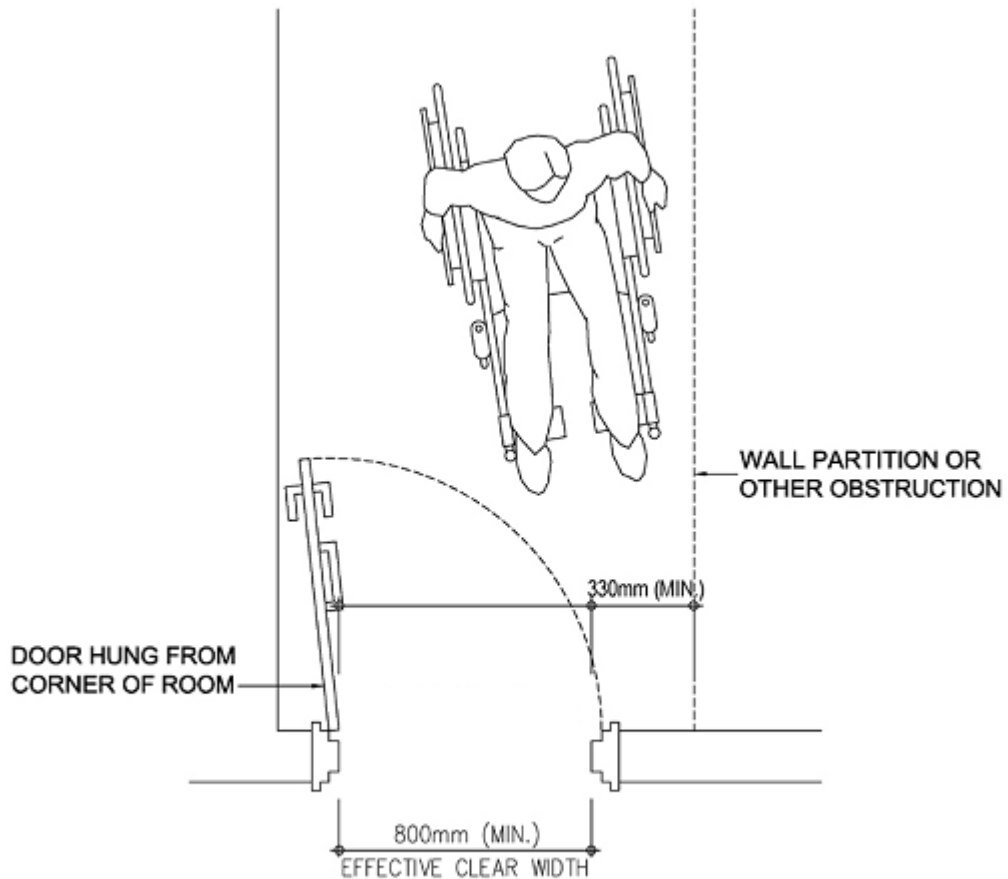
Obligatory Design Requirements

38. Width of Doors

Door, including one leaf of a pair of double doors, shall have a clear width of not less than 800 mm between the open door and opposite jamb or the other leaf. (see Figure 22)

39. Unobstructed Area

- (1) The unobstructed area adjacent to the door handle on the leading face of a single door shall not be less than 330 mm in width. (see Figure 22)
- (2) Door, if less than 330 mm from the corner of a room, shall swing from the side nearer to that corner.



*ALL DIMENSIONS ARE IN mm

Figure 22 – Plan of Door Suitable for Wheelchair

40. Double-action Self-closing Doors

Double-action self-closing door shall have a check mechanism to prevent the door swinging beyond the closed position and a transparent vision-panel with a bottom edge not more than 1000 mm above the floor and the top edge not less than 1500 mm above the finished floor level.

41. Handles

Door handle shall not be less than 950 mm and not more than 1050 mm above the finished floor level, measured from the top surface of the grip.

Obligatory Design Requirements (Cont'd)

42. Door Thresholds

Door threshold shall not exceed 20 mm in height and shall be bevelled to facilitate passage of wheelchairs.

43. Door Closing Devices

Door closing devices shall be designed to allow exterior and interior doors to be opened with horizontal force of not more than 30 N and 22 N respectively. Door required to have fire resistance period installed along accessible routes shall be opened with horizontal force of not more than 30 N. Closer for interior door shall have a closing period of at least 3 seconds measured from an open position of 70° to a point 75 mm from the closed position measured from the leading edge of the door. Door closing devices include door closer, spring hinge and floor hinge.

44. Frameless Glass Doors

If frameless glass door is used, it shall be prominently marked so as to make it visible. The marking shall be placed across on the glass door such that at least a portion of the marking is placed between 900 mm and 1500 mm above the finished floor. The colour marking shall also be provided to glass panel adjacent to the glass door.

45. Automatic Main Entrance Doors

Automatic door shall be provided to one of the main entrances, which is commonly used by the public, of sports stadium, town hall, civic centre, theatre, museum, public library, shopping complex, sports complex, public swimming pool complex, office building, hotel and hospital.

BEST PRACTICE SECTION

A. Design Considerations

- (a) Door may be manually operated without powered assistance, or power operated under manual or automatic control. An automatically operated sliding door is a preferred solution for most people as it avoids the risks associated with automatic swing door and its use can make it possible to reduce the length of entrance lobbies.
- (b) A door fitted with a self-closing device to stand against wind force is difficult to be openable by many people, particularly those who are wheelchair users or who have limited strength. Where closing devices are needed for fire control, the use of electrically powered hold open devices or swing-free closing devices is appropriate.
- (c) All doors should be wide enough to allow unrestricted passage for different users, including wheelchair users, people carrying luggage and parents with baby carriages and small children.

A. Design Considerations (Cont'd)

- (d) Sufficient space alongside the leading edge of a door should be provided to enable a wheelchair user to reach and grip the door handle, then open the door without releasing hold on the handle and without the wheelchair footrest colliding with the return wall.
- (e) The presence of door, whether opened or closed, should be apparent to persons with visual impairment through the careful choice of colour and materials for the door and its surroundings. Provision of marking on glass doors would help persons with visual impairment to distinguish obstacles and passage as well as for public to avoid collision.

B. Recommended Design Requirements

External Doors

- (a) External door should be single-action and open outwards to obviate high tension in spring closers in sustaining wind pressure.

Latched Doors

- (b) Where door is latched, lever-type handle should be used.

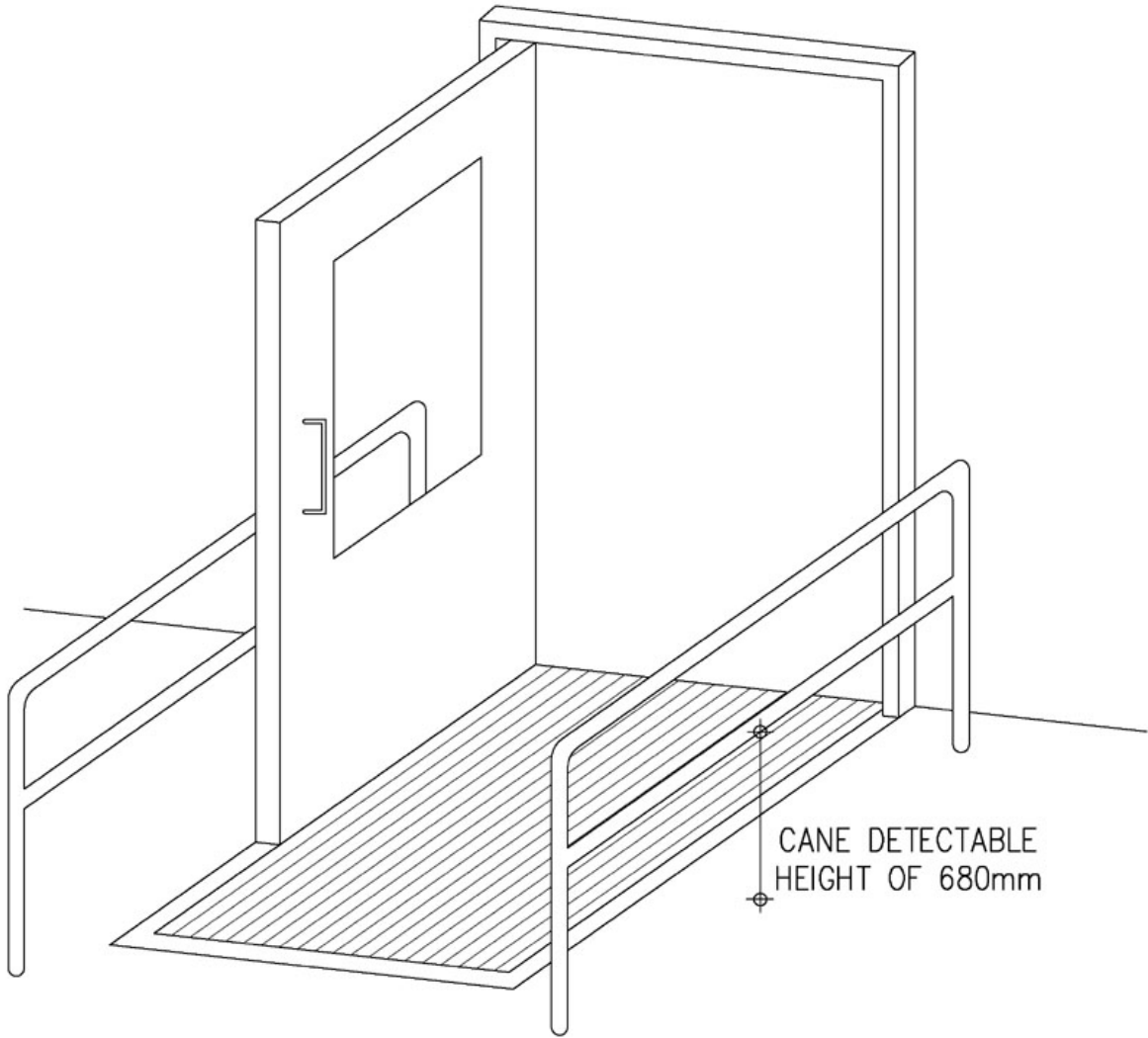
Kick-plates

- (c) All doors which allow the passage of wheelchairs should have kick-plates of not less than 200 mm high fitted on the face which swings away.

Automatic Door Openers

- (d) Automatic door opener should be provided on the main entrance door of buildings not included in paragraph 45 and should:-
 - (i) remain open for a minimum of 5 seconds;
 - (ii) have a guardrail where it opens into a route of travel (see Figure 23);
 - (iii) have a sign showing automatic door; and
 - (iv) be located outside of the door swing.

Sliding automatic door with overhead sensor operating device or manual large button control should be provided.



*ALL DIMENSIONS ARE IN mm

Figure 23 – Guardrails at Out-swinging Automatic Doors

Vision Panels

- (e) Transparent vision-panel should be provided to door in between accessible path. The vision-panel should be installed with bottom edge not more than 1000 mm and top edge not less than 1500 mm above the finished floor level.

Glass Doors

- (f) The leading edge of glass door should be marked to indicate glass.

Luminous Contrast

- (g) Door handle of manually operated doors and control switch or button of door with powered open devices should have a minimum luminous contrast of 30% with the background finishes.