

## **Division 7 --- STEPS AND STAIRCASES**

- 24.** This Division applies only to the required staircase and the main circulation staircase in the common areas of a building, and sets out requirements to help people including persons with ambulant disabilities and persons with visual impairment to negotiate steps and staircases.

### ***MANDATORY SECTION***

#### **Performance Objectives**

Steps and staircases shall be intended as an alternative to lift access in buildings and shall be of adequate design to allow all persons, with or without a disability, to travel safely and independently.

#### **Obligatory Design Requirements**

**25. Dimension and Orientation**

The required staircases and the main circulation staircase in common areas of a building shall:

- (i) be constructed with treads not less than 225 mm in width (measured at the centre of the flight) from the face of one riser to the face of the next riser and with risers not more than 175 mm in height;
- (ii) have risers built with vertical or receding face not more than 15 mm from the vertical, without a projecting nosing;
- (iii) have not more than 16 steps in any flight without the introduction of a landing;
- (iv) be provided on both sides with properly fitted handrails (see paragraph 28(2));
- (v) be provided with non-slip nosing in contrasting colour; and
- (vi) have risers reduced to not more than 160 mm high and treads increased to not less than 280 mm wide for greater ease of use for external steps and stairs.

#### **Colour Contrast**

- (vii) Treads and walls of a staircase shall be in contrasting colours.

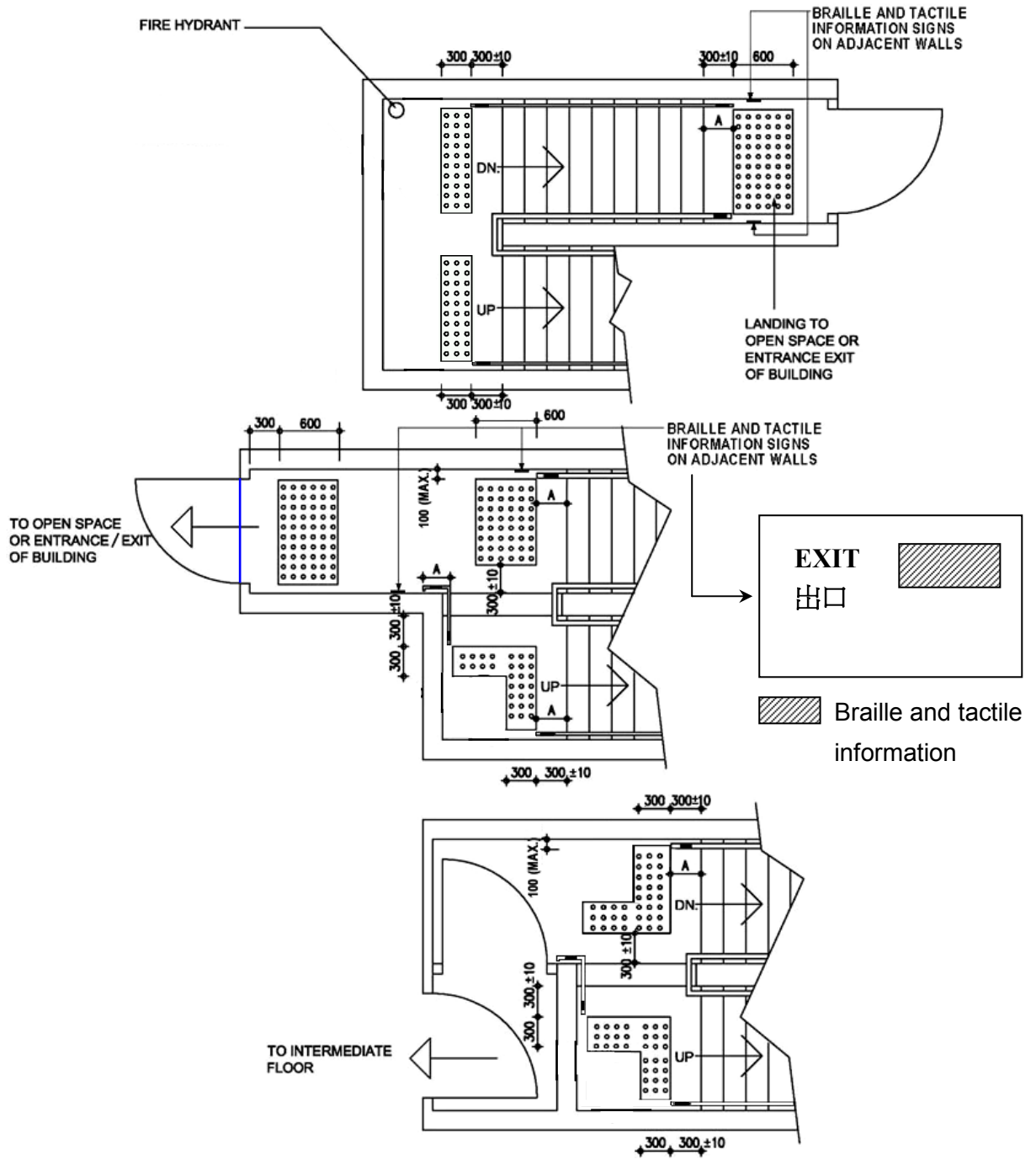
## **Obligatory Design Requirements (Cont'd)**

### **26. Tactile Warning Strip**

Tactile warning strips shall be provided at landings and at both the bottom and top ends of a staircase, regardless of the number of steps it comprises. For landings leading to a floor or those enclosed by wall, railing or balustrade, tactile warning strips of 300 mm in width shall be provided; for those leading to an open space or the entrance / exit of a building, the tactile warning strips shall be 600 mm in width (see Figure 13). In this case, Braille and tactile information signs shall be provided on the adjacent wall to indicate the presence of an opening. For a staircase with intermediate steps between two flights, the provision of tactile warning strips shall follow the arrangement in Figure 13.

### **27. Avoidance of Projection**

No appliances, fixtures or fittings shall project beyond 90 mm from the surface of any wall in a staircase below a level of 2000 mm above the treads of the staircase unless they are unavoidable, in which case they shall also be extended downwards to the level of the treads.



LEGEND: A - MIN. 300 HORIZONTAL HANDRAIL EXTENSION

■ - BRAILLE AND TACTILE INFORMATION INCLUDING DIRECTIONAL ARROW, FLOOR NUMBER AND INFORMATION SIGN

▤ - TACTILE WARNING STRIP

\*ALL DIMENSIONS ARE IN mm

Figure 13 – Arrangement of Tactile Warning Strips and Handrails at Staircases

## ***BEST PRACTICE SECTION***

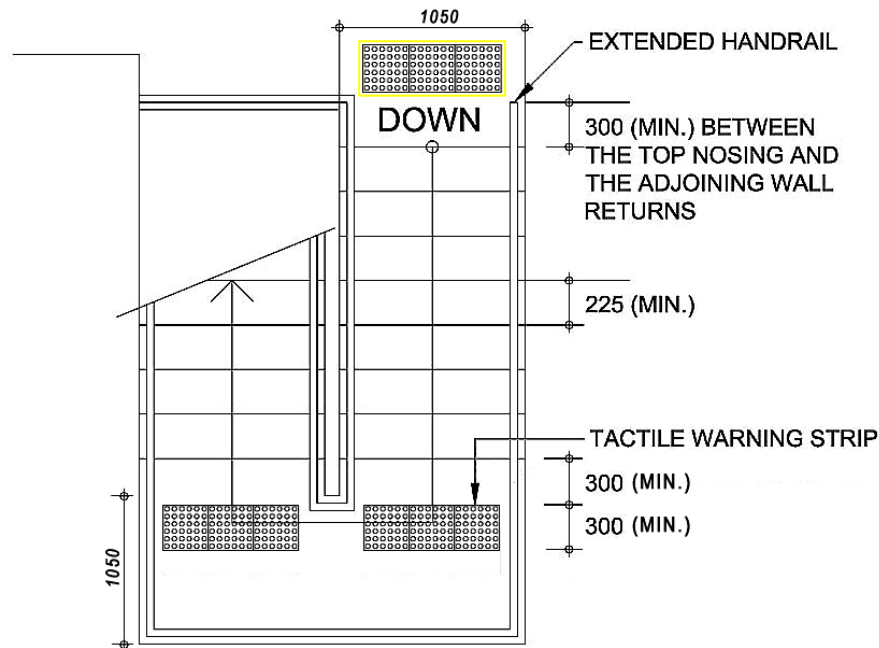
### **A. Design Considerations**

- (a) Where steps or stairs are in an accessible route, complementary ramps, lifts or escalators should be provided.
- (b) All steps should be uniform.
- (c) Circular stair and sloped landing should be avoided.
- (d) It is necessary to provide safe and well-dimensioned staircase for the comfort of all people, especially those with mobility problems.
- (e) When ascending a stair, people who wear calipers or who have stiffness in hip or knee joints are particularly at risk of trapping the toes of their shoes beneath projecting nosings.
- (f) Stair should be designed with more generous dimensions, e.g. wider tread, and shorter travel distance is recommended. Open risers should be avoided.
- (g) Unawareness of steps is dangerous to persons with visual impairment. Timely tactile or audible warning of change in level is therefore essential. Warning should be placed sufficiently in advance of any potential dangers.
- (h) The provision of Braille and high luminous contrast signs is recommended. For persons with visual impairment, high luminous contrast, larger font, more prominent and well-defined shape of sign/signage is recommended.
- (i) Despite the design requirements of tactile guide paths and tactile warning strips would help orientation for persons with visual impairment, they sometimes impose hazards to people with limited mobility, children and the elderly.

## B. Recommended Design Requirements

### Dimension and Orientation

- (a) For any internal stair with heavy circulation, riser should be reduced to 150 mm high and tread be increased to 300 mm wide for greater ease of use.
- (b) Individual flight should not exceed 1800 mm in height nor a total of 12 risers.
- (c) The top nosing of any flight should be built not less than 300 mm from the point at which the adjoining wall returns (see Figure 14).
- (d) Winder, spiral staircase and splayed step should be avoided.



\*ALL DIMENSIONS ARE IN mm

**Figure 14 – Example of Staircase Plan for Persons with a Disability**

### Luminous Contrast

- (e) Non-slip nosing should have a minimum luminous contrast of 30% with the adjoining surfaces.
- (f) Treads of staircase should have a minimum luminous contrast of 30% with the walls.