PROVISIONS FOR PERSONS WITH VISUAL & HEARING IMPAIRMENT

PROVISIONS FOR VISUALLY IMPAIRED

TACTILE INFORMATION IN SIGNS

BRILLE

DETECTABLE WARNING SURFACES
VISUALLY IMPAIRED

PROVISIONS FOR SAFETY & WAYFINDING

Braille and Tactile Information in Signs at these Locations

a) **Staircases** in the building connecting one storey to another storey (Refer to Clause 4.11.1.2)

b) **Ramps** in the building connecting one storey to another storey (Refer to Clause 4.6.1.4)

c) **Public toilet**
   (Refer to Clause 8.5.5.3)

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VISUALLY IMPAIRED

PROVISIONS FOR SAFETY & WAYFINDING

**Staircases** in the building connecting one storey to another storey

- Braille & tactile sign
- Continuous handrail
- Detectable warning surfaces
- Contrasting colour nosing strips
**PROVISIONS FOR SAFETY & WAYFINDING**

**Ramps** in the building connecting one storey to another storey

- Braille & tactile sign
- Detectable warning surfaces

**Braille & Raised Tactile Sign** (Refer to Clause 8.5.5.3)

To provide on:-
- Adjacent walls or
- Stair handrail extensions

**1500m**

To provide on:-
- Adjacent walls or
- Stair handrail extensions
VISUALLY IMPAIRED

PROVISIONS FOR SAFETY & WAYFINDING

If Provided On Handrails (Refer to Figure 45)

• Braille
• Raised Tactile Direction arrow and Storey number to be indicated
**PROVISIONS FOR SAFETY & WAYFINDING**

**Braille & Raised Tactile Sign on Wall** *(Refer to Clause 8.5.5)*

- Braille shall be located:
  - directly below the text
  - arranged with left alignment

**Continuous handrail**

- Refer to Clause 4.11.4

*Except for staircase storey shelter*
VISUALLY IMPAIRED

PROVISIONS FOR SAFETY & WAYFINDING

- Contrasting colour nosing strip
- Detectable warning surfaces

Refer to Clause 4.11.2, 4.11.3

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DETECTABLE WARNING SURFACES

- Concern on tripping hazards caused by TGSIs (Tactile Ground Surface Indicators)

- TGSIs not necessary to be used extensively throughout the pedestrian environment, except at hazardous areas such as kerb ramps at pedestrian crossings etc.

- Use of “Detectable Warning Surfaces” as alternatives are allowed at the top and bottom of staircases and ramps
**VISUALLY IMPAIRED**

**DETECTABLE WARNING SURFACES**

**Hazardous areas** - Pedestrian ways meet Vehicular ways

Use of “Detectable Warning Surfaces” as alternatives allowed at staircases and ramps

- Performance requirements:
  - **Visual** (luminosity, colour)
  - **Tactile Contrast** (detectable by cane & through sole of shoes)
- Applied consistently

Refer To Appendix D - Design Guidelines for Persons with Visual Impairment
Examples of alternative warning surfaces

- Ribbed surfaces
- Colour & Texture

Change in level 15mm to 200mm

Use of Colour Contrast or Coloured Bands

Figure 32
PROVISIONS FOR SAFETY & WAYFINDING

Change in level > 200mm
(Refer to Clause 4.5.3)

Detectable warning surface
to be provided if rise is more than 200mm

Figure 32

PROVISION OF BRAILLE & TACTILE SIGN

Public toilet
Sign to be mounted on the wall next to the latch-side of the door at a distance of 50 mm to 100 mm from the door jamb

Location & Height of Signs
Refer to Clause 8.5.4.2 & 8.5.4.3
The Braille dot shall be:-

- Raised
- Dome shaped
- Comfortable to touch

**Specification For Braille** (Refer to Clause 8.5.5)

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dot diameter</td>
<td>1.5 mm</td>
</tr>
<tr>
<td>Distance</td>
<td></td>
</tr>
<tr>
<td>Between dots</td>
<td>2.5 mm</td>
</tr>
<tr>
<td>Same cell</td>
<td>6.5 mm</td>
</tr>
<tr>
<td>Corresponding dots in adjacent cells</td>
<td>10 mm</td>
</tr>
<tr>
<td>Distance between corresponding dots from one cell directly below</td>
<td></td>
</tr>
<tr>
<td>Dot height</td>
<td>0.6 to 0.9 mm</td>
</tr>
</tbody>
</table>

**TABLE 18**
Recommended Specifications for Braille Signage

[Figure 96](#)
Example of Raised Tactile and Braille Sign

[Figure 95](#)
Recommended Specifications for Braille on Signage
**VISUALLY IMPAIRED**

**PROVISION OF BRAILLE & TACTILE SIGN**

*Specification for Tactile Sign* (Refer to Clause 8.5.1 & 8.5.5)

Characters, Graphical Symbols or Pictographs shall:-
- have a raised relief contour of at least 1 mm
- be between 16mm to 50mm high

**HEARING IMPAIRED**

**HEARING ENHANCEMENT SYSTEM**

*Clause 6.8 - Hearing Enhancement System*

- To enable sound signals to be transmitted to a person with hearing difficulties without interference from background noise

- Hearing enhancement systems that operate with *induction loop*, *infrared* and *radio frequency* are commonly used to provide enhanced level of sound

- Expert advice should be sought when selecting a hearing enhancement system appropriate for the situation and purpose
HEARING ENHANCEMENT SYSTEM

Clause 6.8 - Hearing Enhancement System

To be provided in :-

a) Function room, Hall & Auditorium

b) Min. 1 of the Public Information/Service Counter
for cinemas, theatres, concert halls, stadiums, shopping complexes, museums, theme parks, purpose-built family amusement centres, sport complexes, public swimming pools, hospitals, clinics, transport stations, interchanges and passenger terminal

Refer to Clause 6.8.2
Figure 73

The international symbol of access for hearing loss shall be conspicuously displayed