Significance of Design Guidelines for Children with Physical Disabilities
Buildings or premises, such as Kindergartens, Preschools, Primary schools where the children are principal or predominant users.
Objectives

To provides the basic guidelines to the Architects, Engineers and Developers to make the buildings accessible for the children with physical disabilities.
Interpretation

Children with Physical Disabilities

(a) Wheelchair bound  (b) Ambulant disabled

Age : 3 to 12 years (3 to 6 and 7 to 12)
Space Allowances

Minimum clear floor space of 900mm x 1200mm is required to accommodate a single stationary wheelchair.
Space Allowances

Minimum clear floor space of 1800mm x 1800mm is required to turn a wheelchair.
## Gradient for Ramp

<table>
<thead>
<tr>
<th>Changes in vertical Rise (mm)</th>
<th>Gradient not steeper than</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-15</td>
<td>1:2</td>
</tr>
<tr>
<td>15.1 to 50</td>
<td>1:5</td>
</tr>
<tr>
<td>50.1 to 200</td>
<td>1:10</td>
</tr>
<tr>
<td>Exceeding 200</td>
<td>1:12</td>
</tr>
</tbody>
</table>
Handrails / Grab bars

• Should be easy to grasp
• Should be slip-resistant
• Should provide firm and comfortable grip
• Should slide along the rail without obstruction
• Should have appropriate diameter
• Should be at the proper height
Handrails / Grab bars

- Diameter:
  - Adults: should be 30mm to 45 mm
  - Children: should be 30mm to 35 mm

- Height of the Handrails / Grab Bars:
  A second set of grab bars should be provided for children

<table>
<thead>
<tr>
<th>Children</th>
<th>Adults</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 to 6 Years</td>
<td>7 to 12 Years</td>
</tr>
<tr>
<td>450mm to 580 mm</td>
<td>580mm to 700mm</td>
</tr>
</tbody>
</table>
Seating Space
(Provided at counters, tables or work surfaces for W/C users)

- Clear floor space: 900mm x 1200mm
  (same for children & adults)
2. Clear Knee space:
   - Adults: 900mm wide x 480mm deep x 700mm high
   - Children: 700mm wide x 400mm deep x 680mm high
3. **Counter tops:**

- **Adults**: shall not be more than 800mm from the floor.
- **Children**: shall be at a height between 700mm to 780mm.
Drinking Fountain
(For Wheelchair users)

Spout Opening of the Drinking Fountain:

- **Adults**: An opening located between 750mm to 900mm.
- **Children**: An opening located between 740mm to 780mm.
Sanitary Provisions

- Water Closet:

  a. **Distance** between the centre line of the water closet to the adjacent wall shall comply with the following table.

<table>
<thead>
<tr>
<th>Distance</th>
<th>Children</th>
<th>Adult</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3-6 Y</td>
<td>7-12 Y</td>
</tr>
<tr>
<td>300-350mm</td>
<td>350-450mm</td>
<td>460-480mm</td>
</tr>
</tbody>
</table>
- **Water Closet:**

  b. **Height of the water closet seat for the ambulant disabled shall comply with the following table.**

<table>
<thead>
<tr>
<th>Height</th>
<th>Children</th>
<th>Adult</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3-6 Y</td>
<td>7-12 Y</td>
</tr>
<tr>
<td>290-400mm</td>
<td>400-450mm</td>
<td>450-480mm</td>
</tr>
</tbody>
</table>

c. **Height of the water closet seat of 450mm to 480mm is recommended for wheelchair users of all age groups to facilitate transfer.**
2. **Grab bars:**

- Two Horizontal grab bars one at the side wall and another at the wall behind the water closet shall be mounted at a height between 640mm to 740 mm.

- At least 450mm extended in front of the seat

- At least 750mm long
3. Urinal:

Urinal mounted at a height of not more than 400mm from the finished floor level should be provided for ambulant children with physical disabilities.
4. Wash basin:

- 700 wide x 400mm deep x 680mm high.
- The rim or counter surface should not be higher than 780mm.
- A wash basin with adjustable height is more appropriate to serve the needs of different age group.
Sanitary Provisions

5. Mirror:

- Mirror from maximum 800mm above the floor level to the top most edge of minimum 1900mm is recommended for all people including children and adults (both ambulant and wheelchair users).

- A clear floor space of 900mm x 1200mm should be provided in front of the mirror.
# Reach Ranges
(for wheelchair users)

## A. Forward Reach without Obstruction

<table>
<thead>
<tr>
<th></th>
<th>Children</th>
<th>Adult</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3-6 Y</td>
<td>7-12 Y</td>
</tr>
<tr>
<td>High (Max.)</td>
<td>900mm-1000mm</td>
<td>1000mm-1100mm</td>
</tr>
<tr>
<td>Low (Max.)</td>
<td>500mm</td>
<td>400mm</td>
</tr>
</tbody>
</table>
## Reach Ranges
(for wheelchair users)

### B. Side Reach without Obstruction

<table>
<thead>
<tr>
<th></th>
<th>Children</th>
<th>Adult</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3-6 Y</td>
<td>7-12 Y</td>
</tr>
<tr>
<td>High (Max.)</td>
<td>960mm - 1070mm</td>
<td>1070mm-1170mm</td>
</tr>
<tr>
<td>Low (Max.)</td>
<td>500mm</td>
<td>400mm</td>
</tr>
</tbody>
</table>

- **3-6 Y**: 960mm - 1070mm
- **7-12 Y**: 1070mm - 1170mm
- **Adult**: 1300mm
- **Low (Max.)**: 500mm
- **High (Max.)**: 960mm - 1070mm
- **250 mm (Min.)**: Dotted line indicates minimum reach.
The lift control panel for children with disabilities should be placed at a height between 800mm and 100mm from the floor level.
Public Telephone

The height of the operable parts of a telephone should be between the height of 800mm to 1000mm.
- Height of the tables or counters should not be higher than 780mm where the disabled children on wheelchair are principal or predominant users.

- A clear floor space of 900mm by 1200mm should be provided at the front of the seating space for wheelchair users.

- A clear knee space of 700mm wide by 400mm deep by 680mm high should be provided.
Computer Room

- The computer’s central processing unit, monitor, Printer, keyboard, mouse and other accessories should be within the reach of the users.

- A clear floor space of 900mm by 1200mm should be provided at the front of the seating space for wheelchair users.

- A clear knee space of 700mm wide by 400mm deep by 680mm high should be provided.

- A table with adjustable height is recommended
Library

- Where the revolving doors or turnstiles are provided at the entrance an adjacent accessible gate should be provided.

- Height of the tables or counters should not be higher than 780mm where the disabled children on wheelchair are principal or predominant users.

- A clear floor space of 900mm by 1200mm should be provided at the front of the seating space for wheelchair users.

- A clear knee space of 700mm wide by 400mm deep by 680mm high should be provided.

- A table with adjustable height is recommended
Thank you