

# Accessibility Requirements for Lifts

Building Plan and Universal Design Department  
Building Plan and Management Group

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Mode of Briefing : Webinar



# Aim

- Provide overview on the accessibility requirements of passenger lifts and lifts designated for wheelchair users.
- Explain the rationale behind various accessibility requirements for lifts and clarify common misinterpretations of the relevant clauses in the Code on Accessibility 2019.



# Agenda

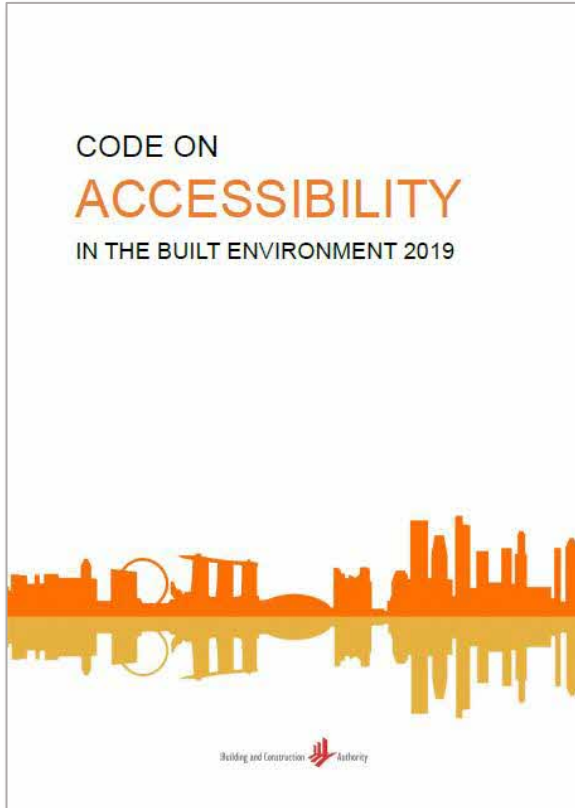
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- 2 Accessible Requirements**
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  - b) Lift Lobby and Landing Space
  - c) Lift Car
  - d) Lift Buttons
  - e) Lift Visual & Audio Assistance
  - f) Platform Lifts / Stairlifts
- 3 Q&A / Enquiries**



# 1 Introduction

Code on Accessibility in the  
Built Environment 2019





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<https://go.gov.sg/codeonaccessibility2019>

Code on Accessibility in the Built Environment 2019

## Chapter 4 Accessibility around and within the Building

CODE ON ACCESSIBILITY 2019

**4.8 PASSENGER LIFTS** Passenger lifts

**4.8.1 General**

4.8.1.1 All lifts provided in a building must include suitable provisions for the ambulant disabled and persons with sensory impairments as a means of access from one level to another.

4.8.1.2 The emergency bell in the lift must be connected to a blinking light in the lift car to signal to persons with hearing impairments that the emergency bell has been activated.

CODE ON ACCESSIBILITY 2019

**4.9 LIFTS DESIGNATED FOR WHEELCHAIR USERS** Lift for wheelchair users

**4.9.1 General**

4.9.1.1 Where lifts are provided in a building, at least one lift must be made accessible for wheelchair users from the entrance level for vertical circulation.

4.9.1.2 The lift must serve all levels intended for access by wheelchair users.

4.9.1.3 Lift lobby space with lifts designed for wheelchair users must have a clear manoeuvring space of 1200 mm wide by 1500 mm deep as illustrated in Figure 4.9.1.3.

## 2 Accessibility Requirements

Lifts Provision

Lift Lobby and Landing Space

Lift Car

Lift Buttons

Lift Visual & Audio Assistance

Platform Lifts / Stairlifts



# LIFTS PROVISION

## Passenger Lifts

All passenger lifts must include provisions for **ambulant disabled and persons with sensory impairments** (cl 4.8.1.1)

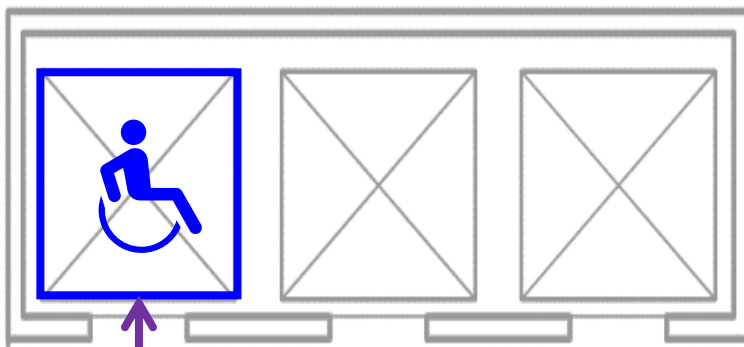


**Grab Bars**  
For the ambulant disabled



**Braille & Tactile**  
For the visually impaired

## Lifts Designated for Wheelchair Users



min 1 no of accessible lift

At least one lift must be accessible for **wheelchair users** from entrance level and must serve all levels intended for access by wheelchair users (cl 4.9.1.1 & cl 4.9.1.2)

## 2 Accessibility Requirements

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Lift Car

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Platform Lifts / Stairlifts

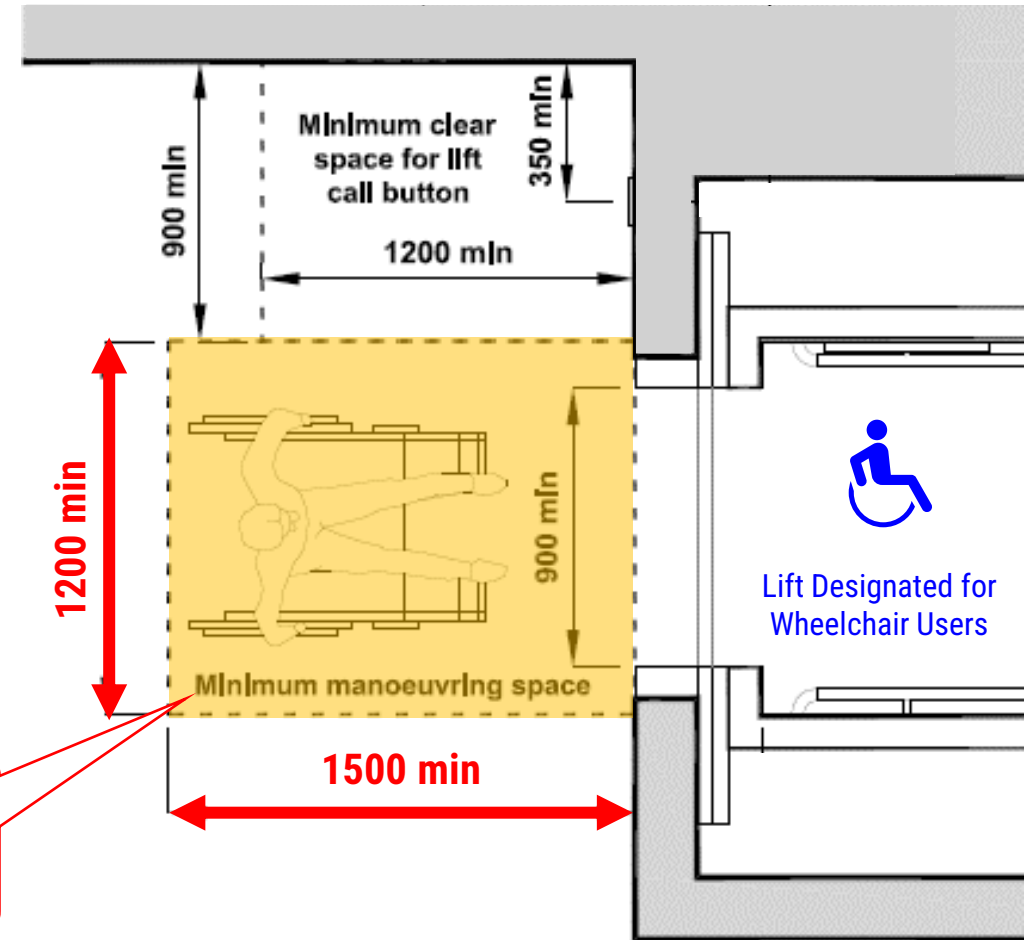


# LIFT LOBBY AND LANDING SPACE

## Clear Maneuvering Space

*(applicable to lifts for wheelchair users)*

Lift lobby space of the accessible lift designed for wheelchair users must have a clear maneuvering space of **min 1200 W x 1500 D** (cl 4.9.1.3)

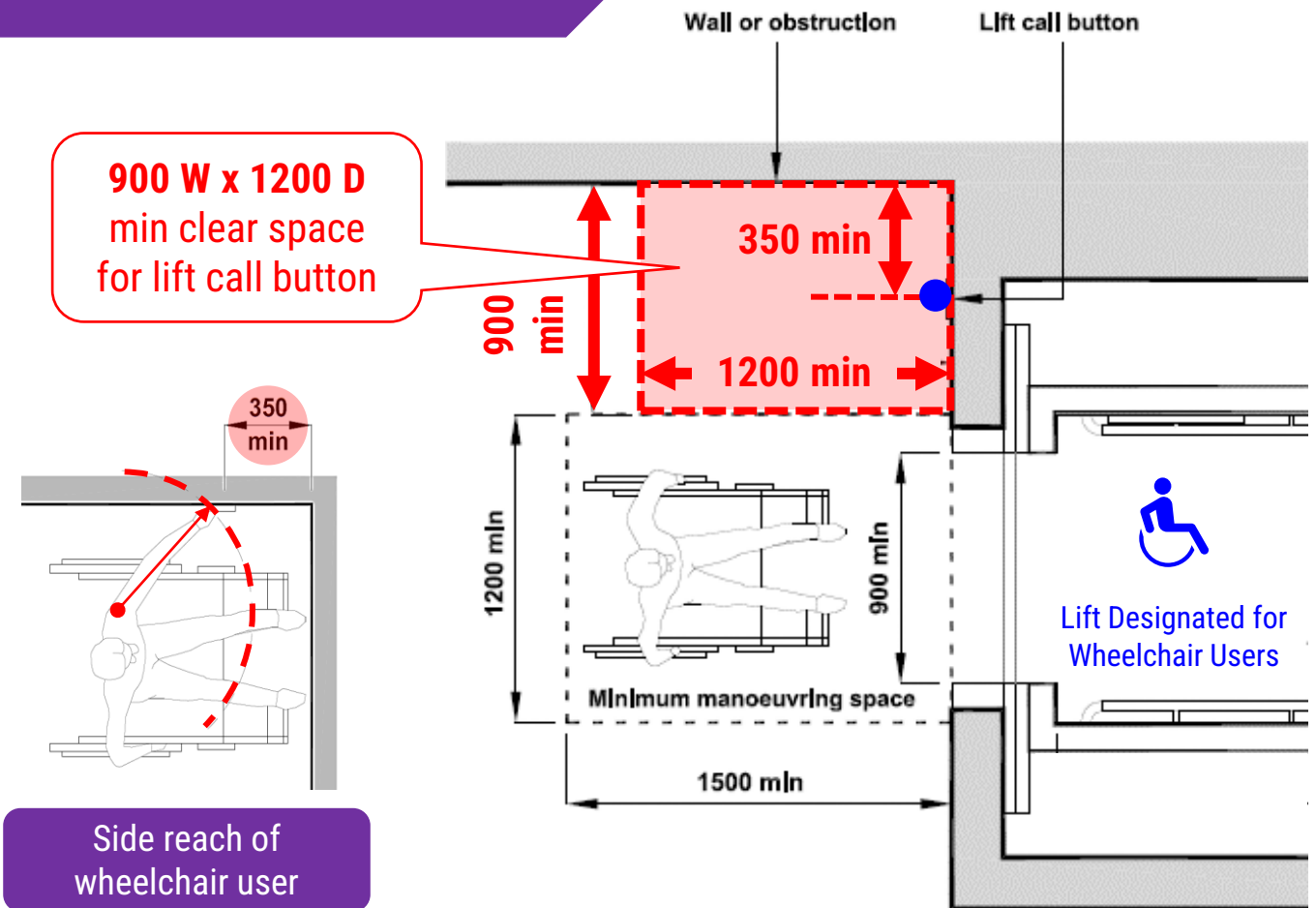


# LIFT LOBBY AND LANDING SPACE

## Clear Floor Space for Lift Landing Button

*(applicable to lifts for wheelchair users)*

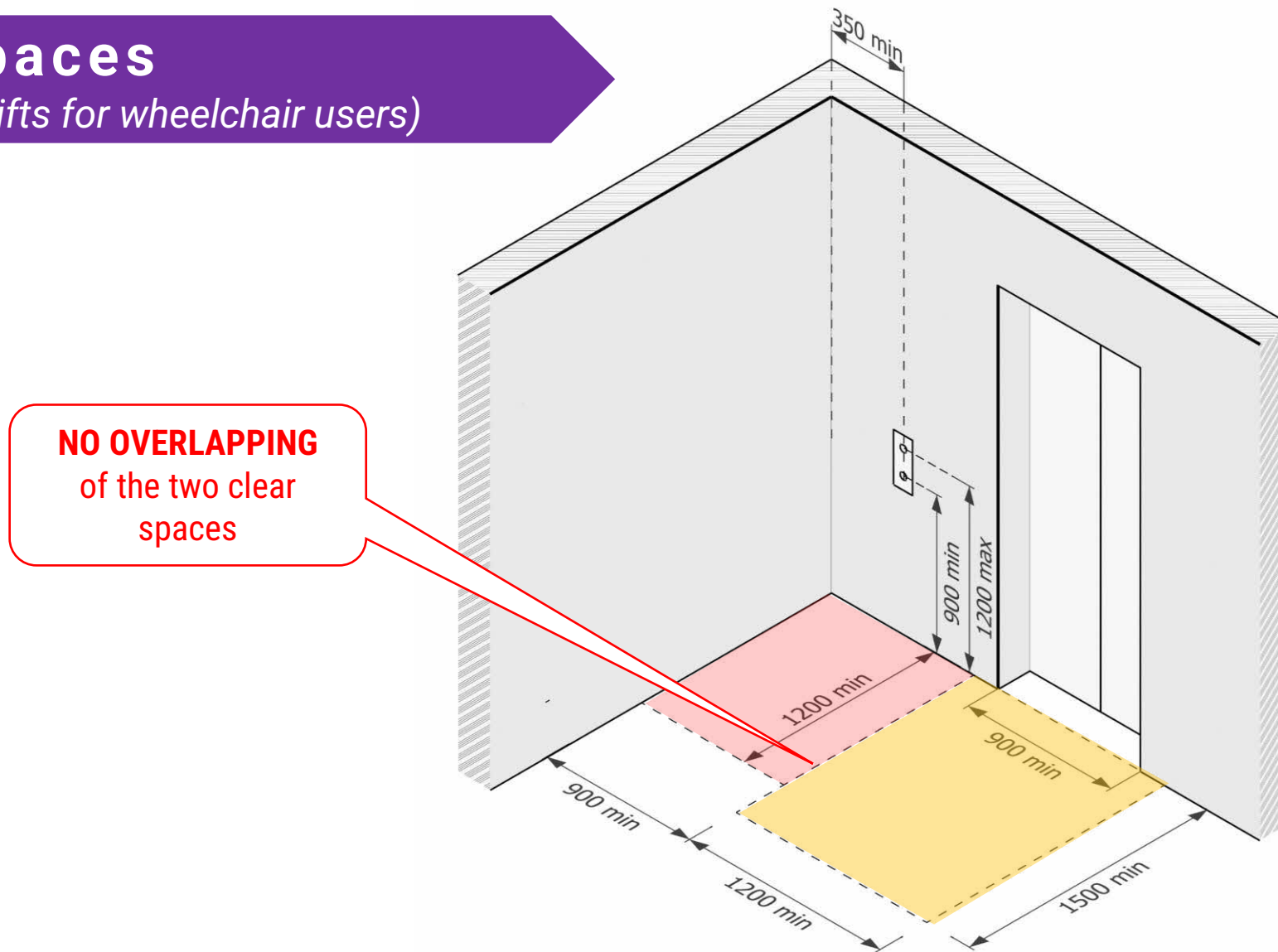
- Maintain a clear floor space of **900 W x 1200 D** for lift landing /call button
- Position lift call button **min 350mm away** from wall/obstruction *(cl 4.9.4.1)*



# LIFT LOBBY AND LANDING SPACE

## Clear Spaces

*(applicable to lifts for wheelchair users)*



# LIFT LOBBY AND LANDING SPACE



Things to note

## Lift Door

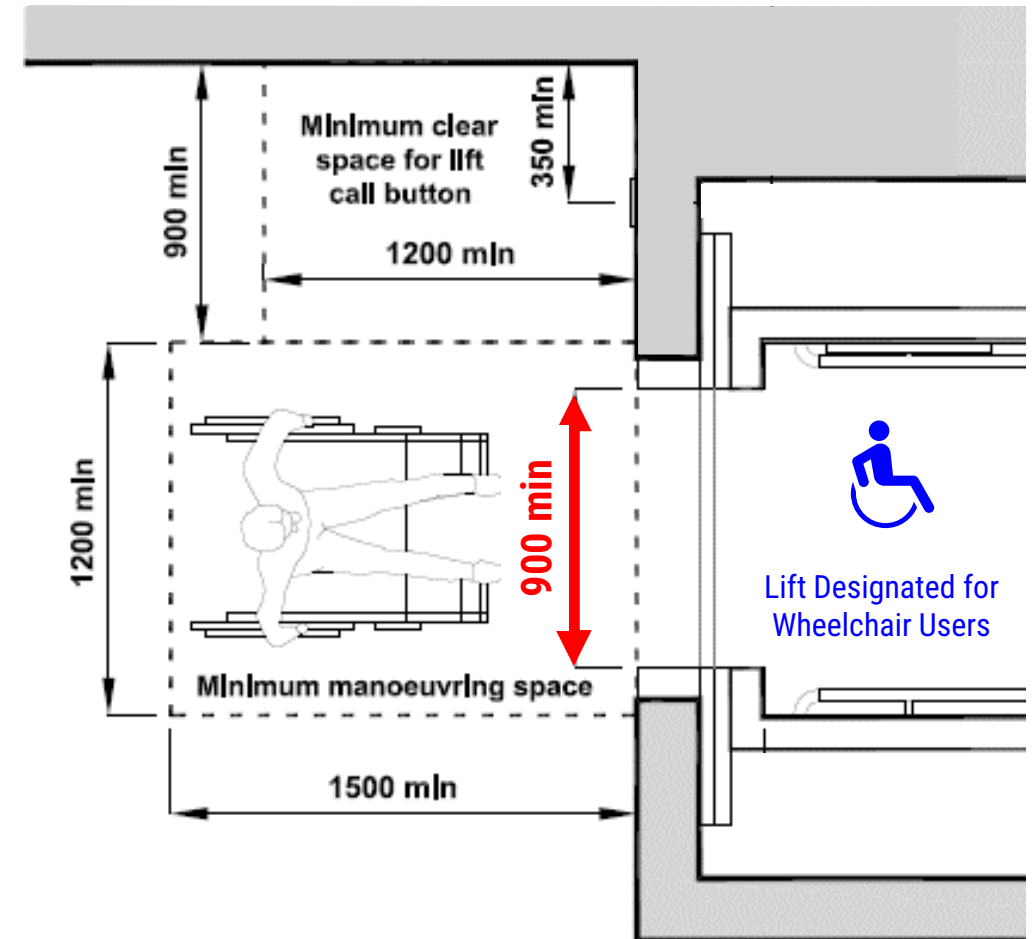
(applicable to lifts for wheelchair users)

It is recommended that lift doors have a **vision panel** to enable persons with hearing impairment to signal for help or assistance in the event of an emergency

Lift car must have a **clear door opening of min 900 mm** (cl 4.9.3.1)



Vision panels on lift doors are recommended



# LIFT LOBBY AND LANDING SPACE

## Lift Call Buttons Position

(applicable to lifts for wheelchair users)

- placed between **900 to 1200 mm** (cl 4.9.4.1)
- must be mounted **adjacent to the lift** (cl 4.8.2.4)
- provide **symbol of access** to identify the lifts designated for wheelchair users (cl 4.9.6.1)

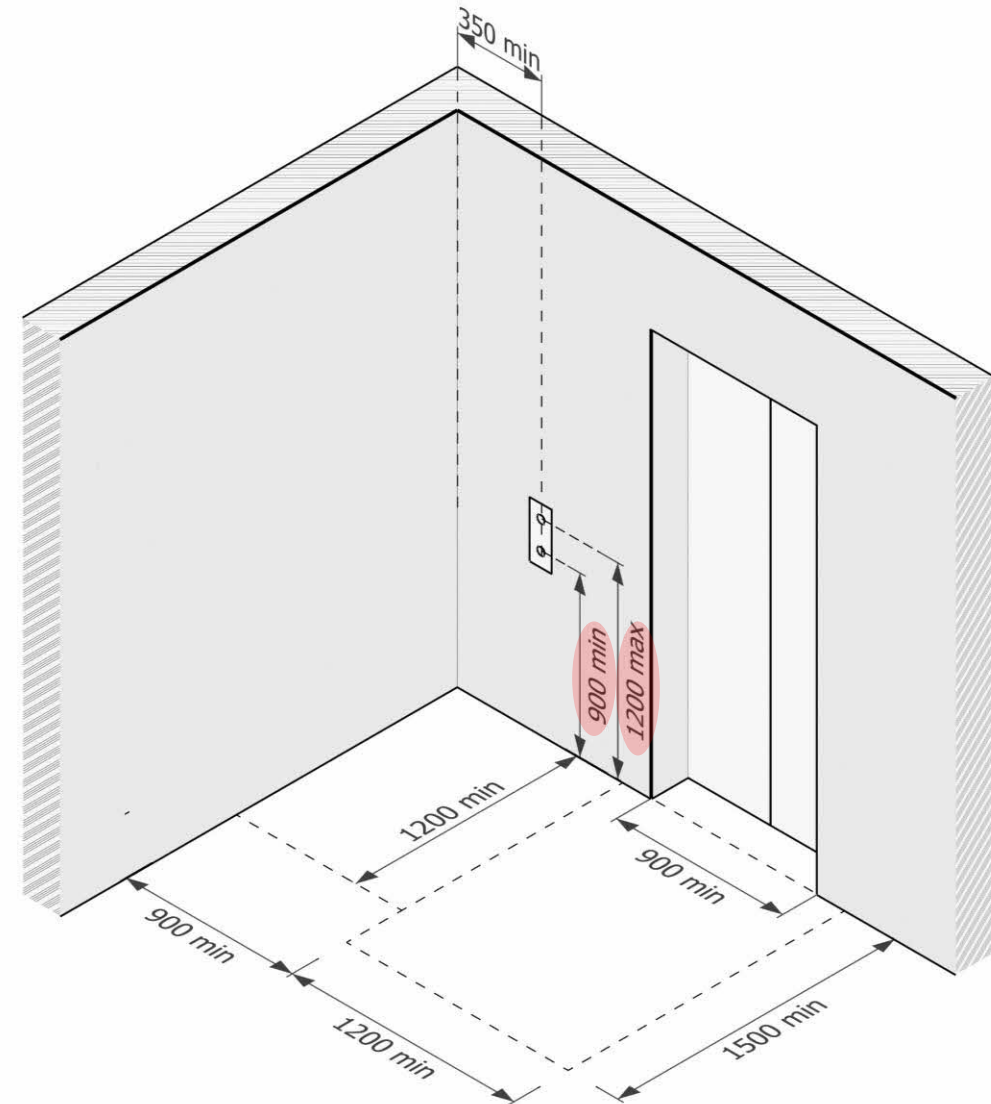


International Symbol of Access



### Things to note

- Must be in **white on a blue** background
- For Signage requirement, see **Clause 8.5** in Code



## 2 Accessibility Requirements

Lifts Provision

Lift Lobby and Landing Space

**Lift Car**

Lift Buttons

Lift Visual & Audio Assistance

Platform Lifts / Stairlifts

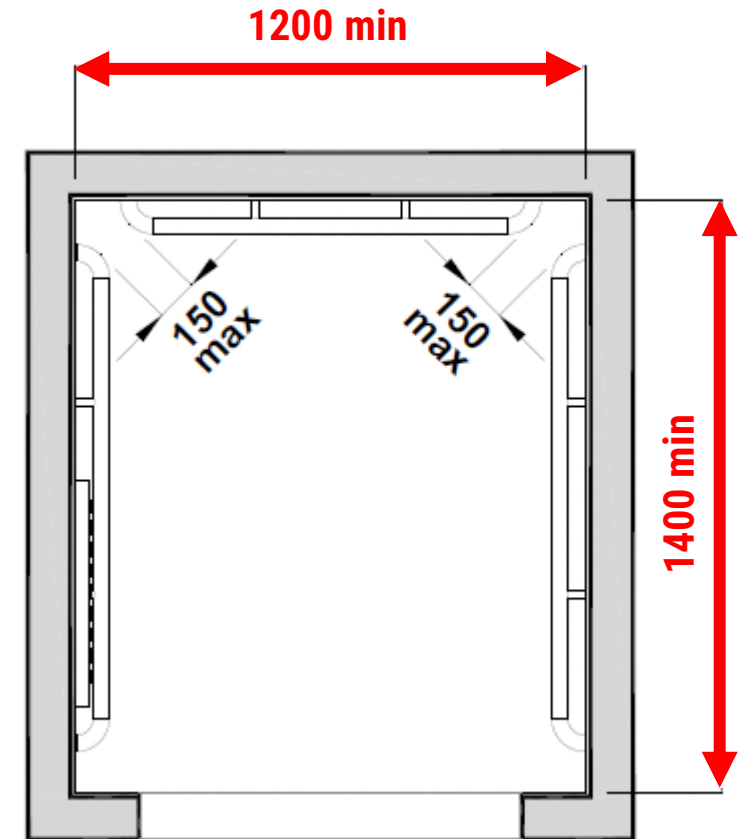


# LIFT CAR REQUIREMENTS

## Lift Car Size

*(applicable to lifts for wheelchair users)*

Minimum internal lift car dimension must be  
**1200 W x 1400 D** (cl 4.9.2.1)



# LIFT CAR REQUIREMENTS



## Rationale

### Lift Car Grab Bar

(applicable to lifts for wheelchair users & passenger lifts)

Grab bars should not have any open ends to avoid hooking when used by passengers

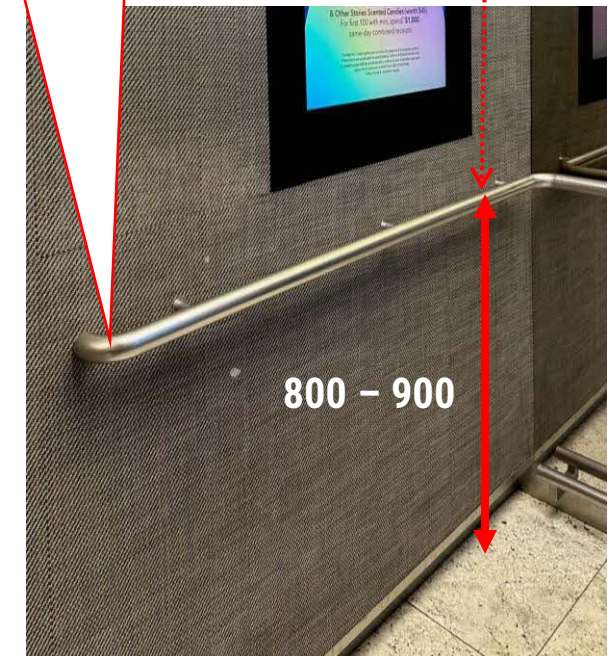
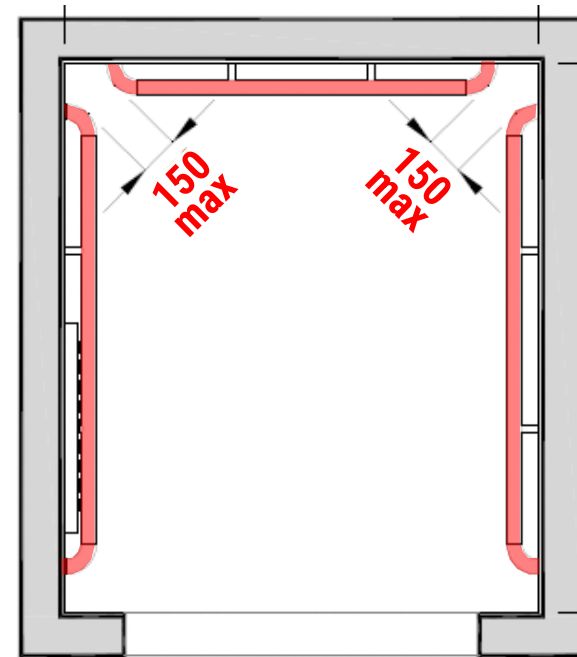
Grab bars must (cl 4.8.3.1)

- be placed at a height of between **800 mm and 900 mm** from the floor level;
- be **fixed on both sides and at the rear** of the lift car; and
- if it is not continuous, it is allowed to have a gap of **150 mm or less**



Grab bars with **return ends** to lift car wall

Measured to **top of grab bar**



Grab bar height

# LIFT CAR REQUIREMENTS



## Rationale

Facilitate wheelchair user to back in or out of the lift safely without having to turn, preventing injury and damage to wheelchair

## Lift Car Mirror

(applicable to lifts for wheelchair users)

- non-breakable mirrors / mirror-like finish surfaces must be provided at **the rear of lift car interiors**

*Note: Other mirror-like surfaces such as laminated glass, aluminum, stainless-steel, and etc can be accepted so long as they achieve the intended performance requirement.*

- distance between bottom of mirror & floor level must not exceed **1000mm**

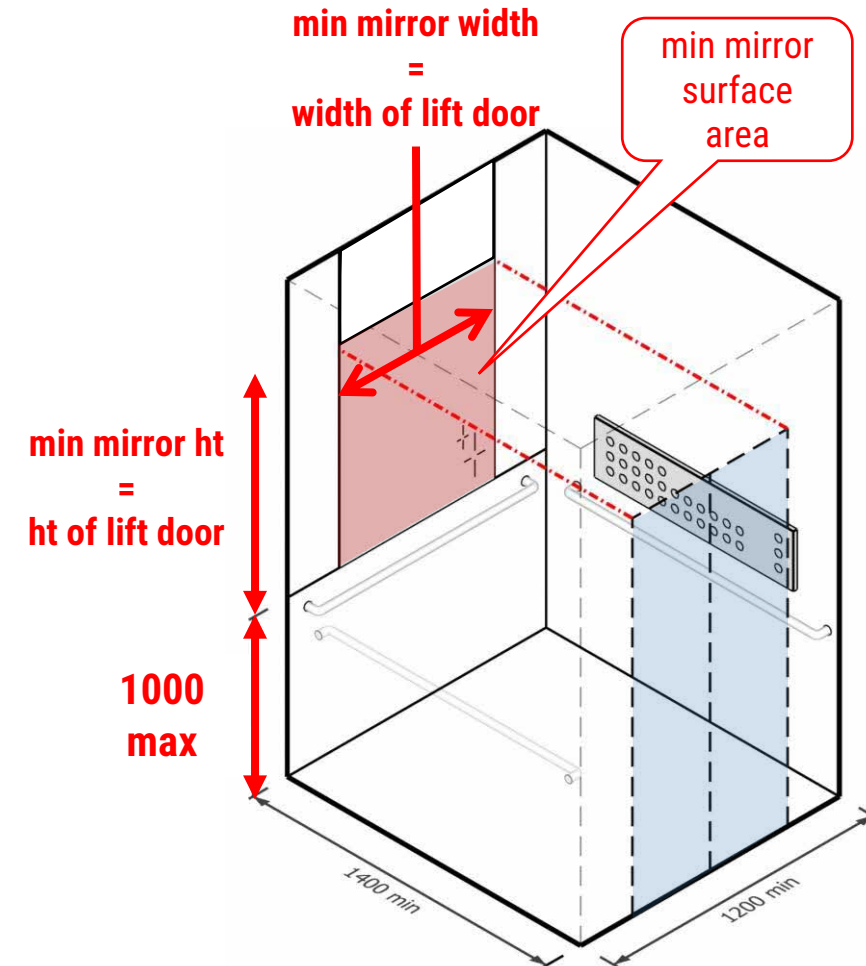
**1000mm**

- minimum width of the rear mirror must be **the width of the lift door opening** (cl 4.9.2.2 & 4.9.2.3)

If mirror glass is used, please ensure that it is a safety glass



Rear Mirror



## 2 Accessibility Requirements

Lifts Provision

Lift Lobby and Landing Space

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Platform Lifts / Stairlifts



# LIFT CAR CONTROL BUTTONS



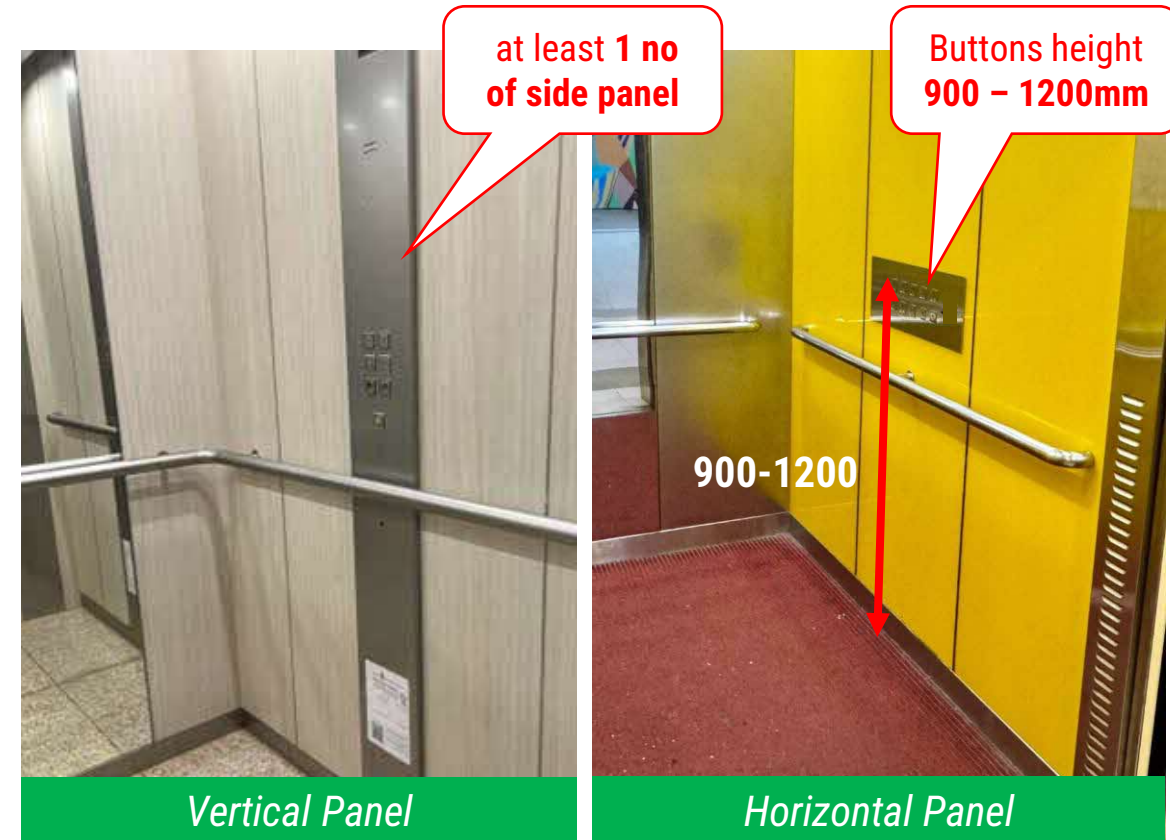
## Things to note

## Placement of Lift Car Control Buttons (applicable to lifts for wheelchair users)

*Side Panel is recommended to be placed to the **RIGHT** side when entering the lift*

The lift car control buttons located inside the lift (cl 4.9.5.1)

- must be placed at a height of **between 900 mm and 1200 mm** from the floor level;
- may be placed **vertically or horizontally** or **both vertically and horizontally**; and
- must have **at least one panel** placed to the **side** of the lift car.



# LIFT CAR CONTROL BUTTONS



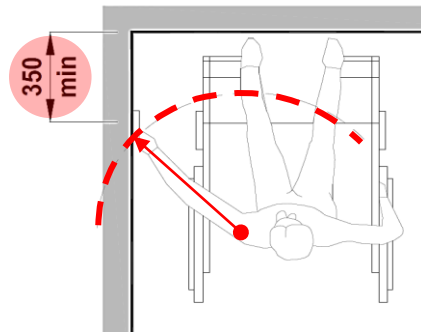
## Rationale

Wheelchair users encounter difficulties when they have to turn around their wheelchairs to reach the lift control buttons, especially if the panels are positioned at the front. This challenge is exacerbated in crowded lift situations.

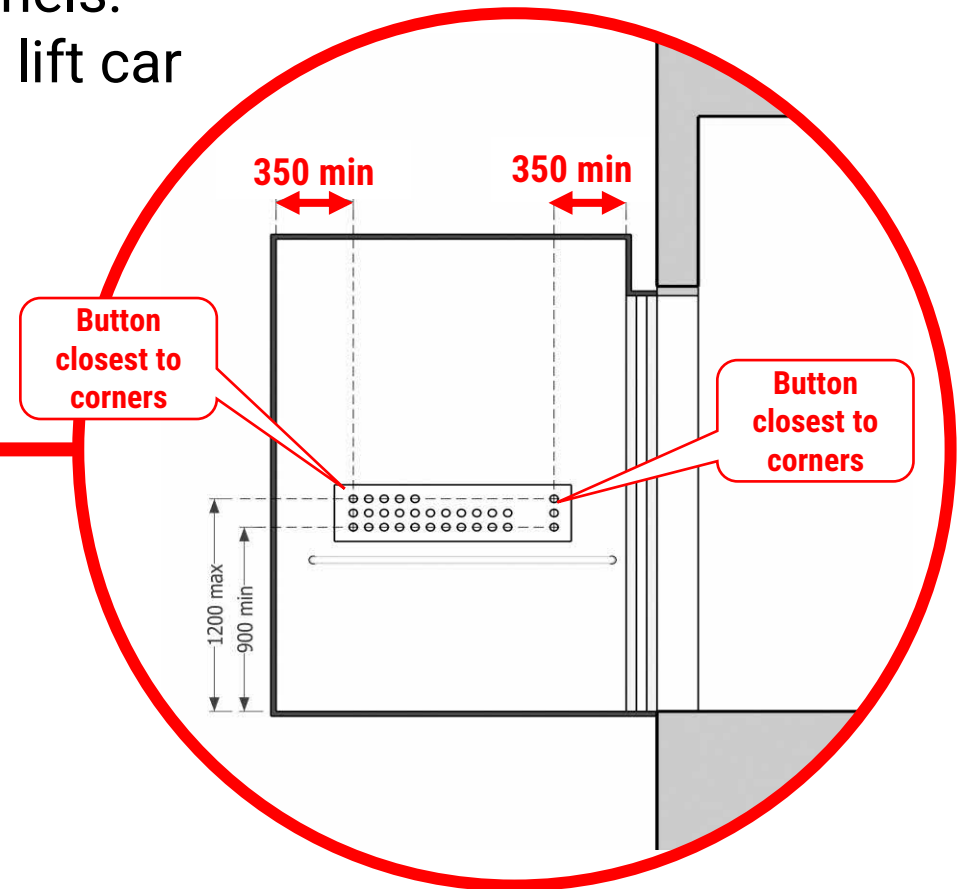
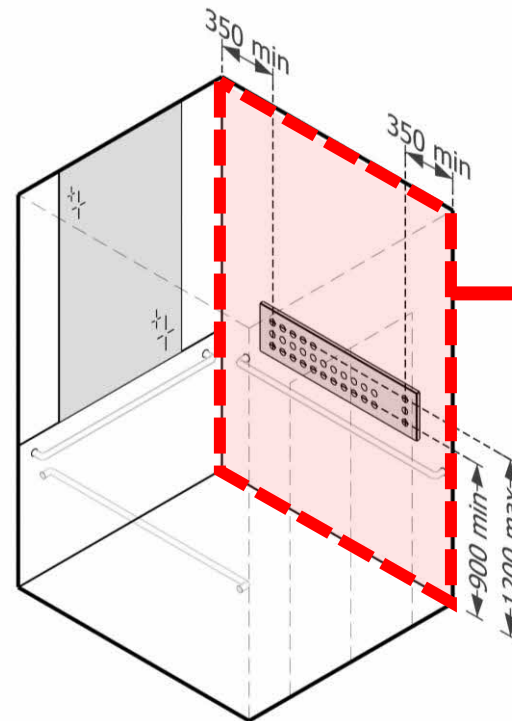
## Placement of Lift Car Control Buttons (applicable to lifts for wheelchair users)

For accessible lifts with one or more than one control panels:

- must have **at least one panel** placed to the **side** of the lift car  
(cl 4.9.5.1(c))



Side reach of wheelchair user



# LIFT LANDING & CALL BUTTONS

## Button Requirements

(applicable to lifts for wheelchair users & passenger lifts)

Lift landing call and car control buttons (cl 4.8.2.5)

- must require a **light positive pressure** to activate them
- min activation force must be **3.5 N or 350 g**
- must **contrast with the background** of the lift control panel or wall finish



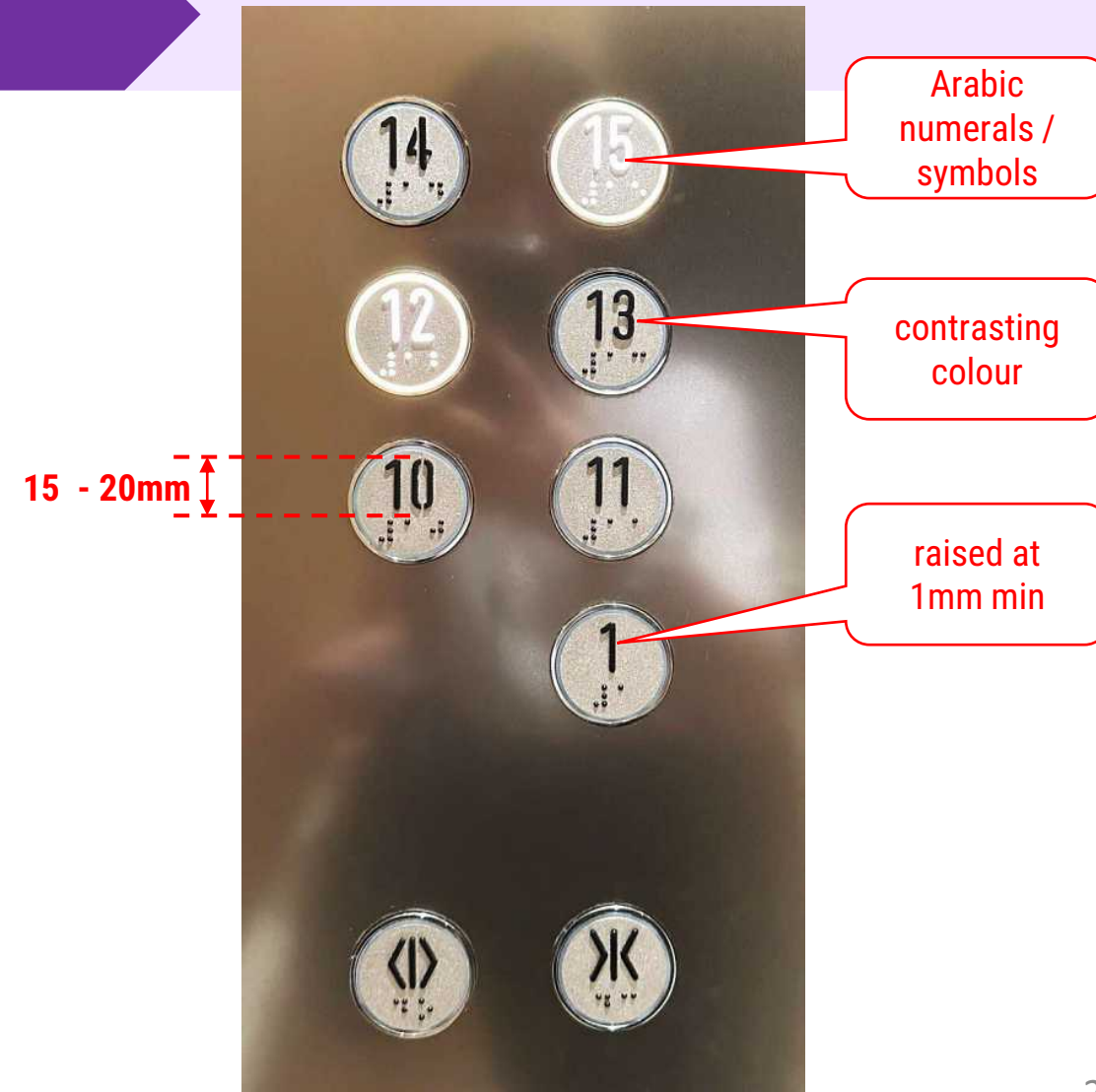
# LIFT LANDING & CALL BUTTONS

## Tactile Markings

*(applicable to lifts for wheelchair users & passenger lifts)*

Tactile markings must (cl 4.8.2.3)

- be in **Arabic numerals or symbols**;
- have a dimension of between **15 mm and 20 mm high**
- be raised at a minimum of **1 mm**
- be in a **high contrasting colour** to the background.



# LIFT LANDING & CALL BUTTONS



## Things to note

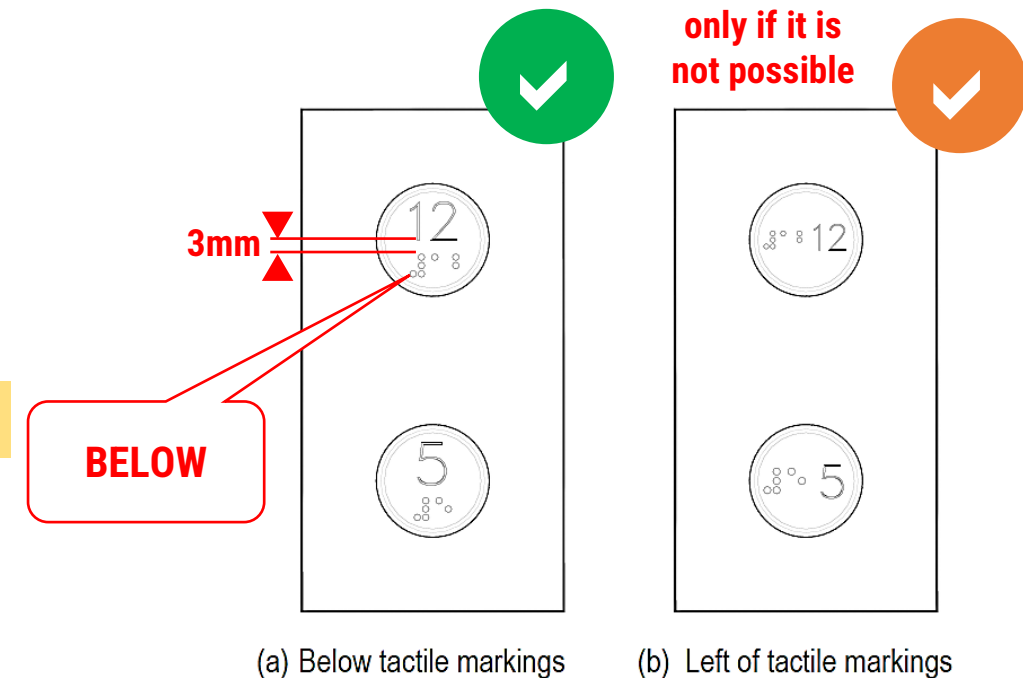
The use of **paste-on Braille** on the control button is **NOT** recommended as it may degrade over time

## Braille Markings

(applicable to lifts for wheelchair users & passenger lifts)

### Braille markings (cl 4.8.2.1)

- must be placed **below** the tactile markings
- can be provided to the **left** of the tactile markings *only if it is not possible to be placed below*
- must be placed at a min dist. of **3 mm** from tactile markings



# LIFT LANDING & CALL BUTTONS



## Rationale

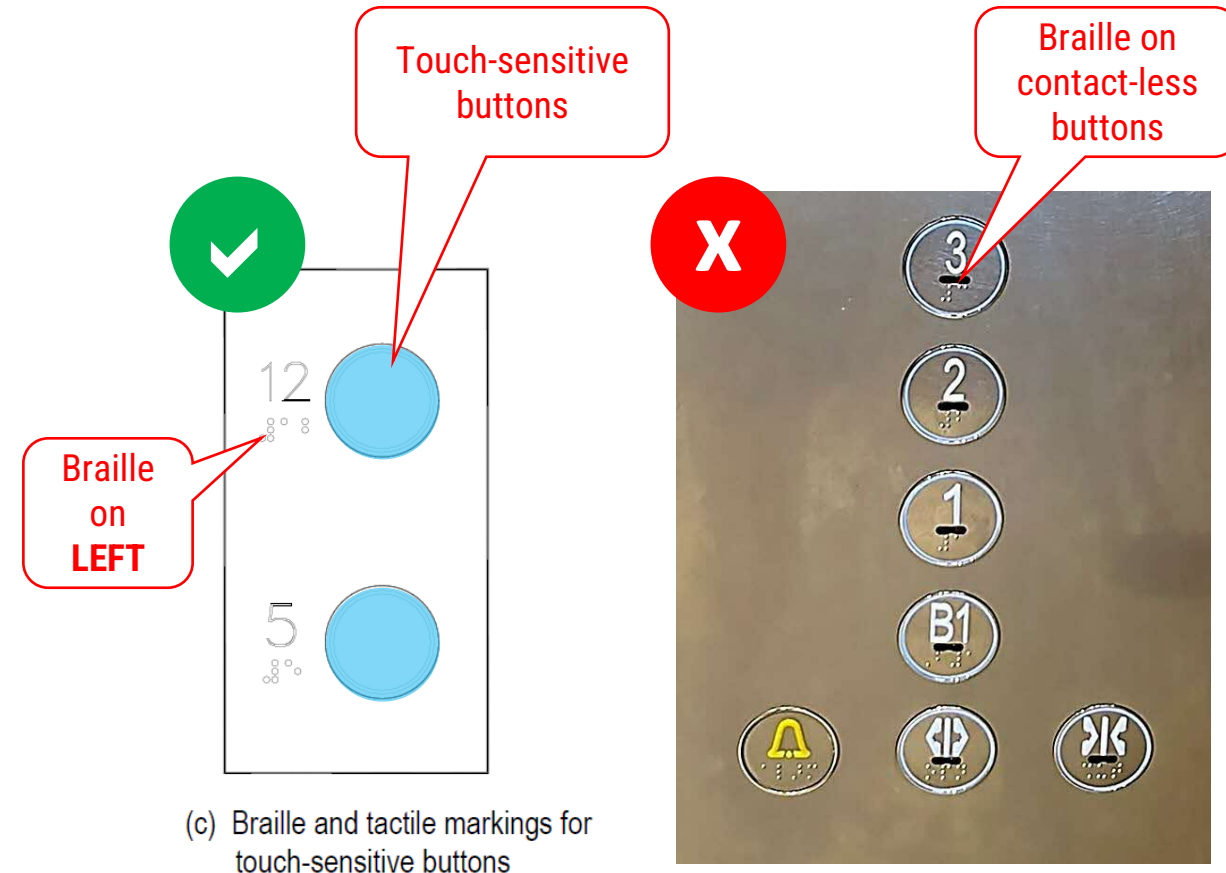
### Touch-Sensitive / Contact-less Buttons

*(applicable to lifts for wheelchair users & passenger lifts)*

*Avoid combining braille & tactile markings on lift buttons to prevent false activation*

#### Braille and tactile markings (cl 4.8.2.1)

- **Not touch-sensitive / contact-less**
- if the buttons are **touch-sensitive / contact-less**, braille and tactile markings must be provided to the **LEFT of lift control buttons** (cl 4.8.2.2)

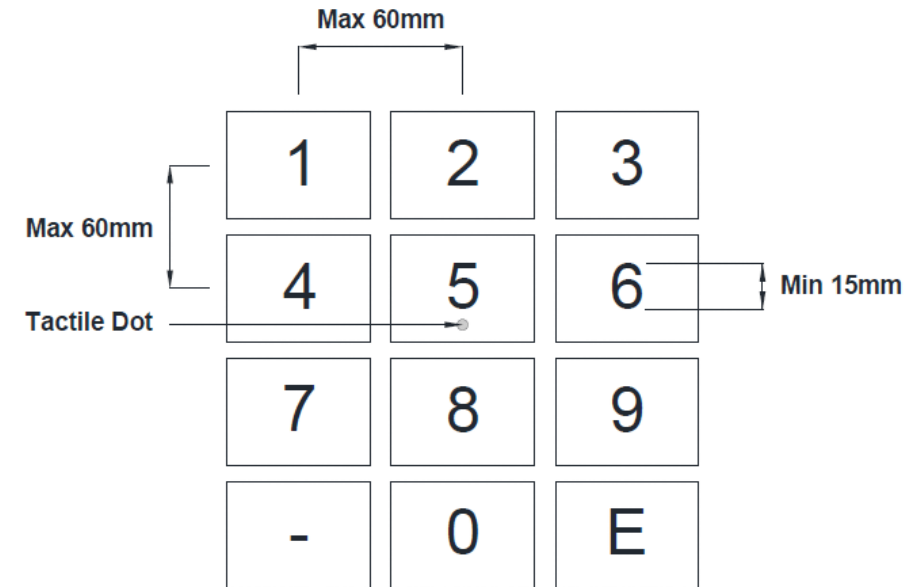


# LIFT LANDING & CALL BUTTONS

## Keypad Control Panels

*(applicable to lifts for wheelchair users)*

Where there are difficulties in providing two control panels inside the lift car in high-rise buildings, **keypad control panels** for wheelchair users can be considered; **the other control panel must be mounted at eye level** (cl 4.9.5.2.1 & Appendix G)



Refer to **Code on Accessibility,**  
Appendix G

## Destination-Based Control System

*(applicable to lifts for wheelchair users & passenger lifts)*

- Lifts with **destination-based control systems** must be accessible to persons with visual impairment
- The **input and output interface** should support accessibility, such as via voice commands, visual displays, tactile keypads and etc.

## 2 Accessibility Requirements

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Platform Lifts / Stairlifts



# VISUAL AND AUDIO ASSISTANCE



## Things to note

## Information Display & Audible Announcement

*(applicable to lifts for wheelchair users & passenger lifts)*

*Lift lantern is important to signal the lift status, especially when there are many lifts*

All passenger lifts must be provided with

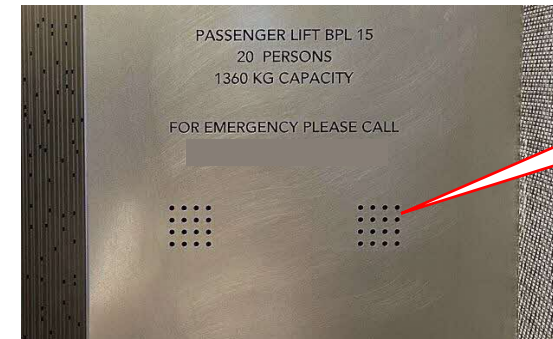
- a **visual information display system** that is suitably colour contrasted *(cl 4.8.2.7)*
- a **momentary audible announcement** that signal each call registered and the storey reached *(cl 4.8.2.6)*



Visual Information Display System



Lift Lanterns



Momentary Audible Announcement

» Third Floor

# VISUAL AND AUDIO ASSISTANCE

## Emergency Bell

*(applicable to lifts for wheelchair users & passenger lifts)*

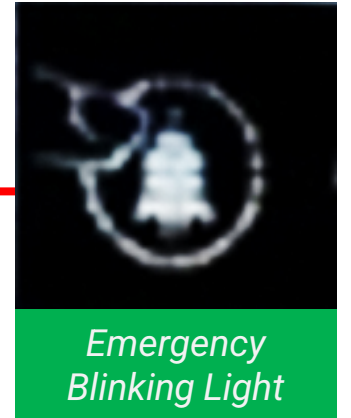


### Rationale

*To signal to persons with hearing impairments that the emergency bell has been activated*

All passenger lifts must be provided with

- **Emergency bell** that is connected to a **blinking light** in the lift car (cl 4.8.1.2)



# LIFT SAFETY

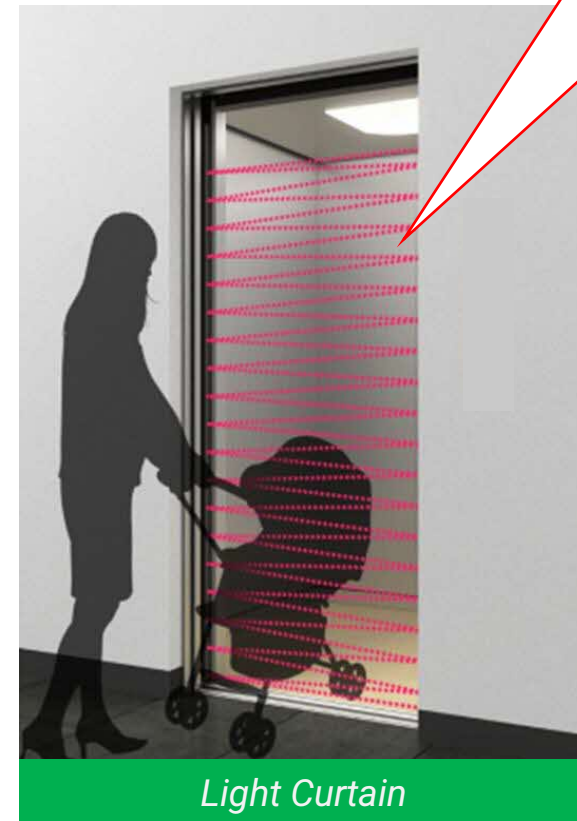
## Door Protective Device

*(applicable to lifts for wheelchair users & passenger lifts)*

The closing of lift doors must be controlled by a **door protective device** to ensure that doors do not make physical contact with people standing in their path.

An **audible signal** must be provided to signal the closing of doors to alert the lift passengers.

*(cl 4.8.4.1)*



 **Door Closing**

Image credit: <https://lukuabi-24h.ee/?k=door-sensors-elevator-wiki-fandom-aa-KxRLWk7>

## 2 Accessibility Requirements

Lifts Provision

Lift Lobby and Landing Space

Lift Car

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Platform Lifts / Stairlifts



## OTHER LIFTS



## Rationale

## Platform Lifts &amp; Wheelchair Stairlifts

*Platform lifts and stairlifts are less preferred due to high maintenance and less operational flexibility*

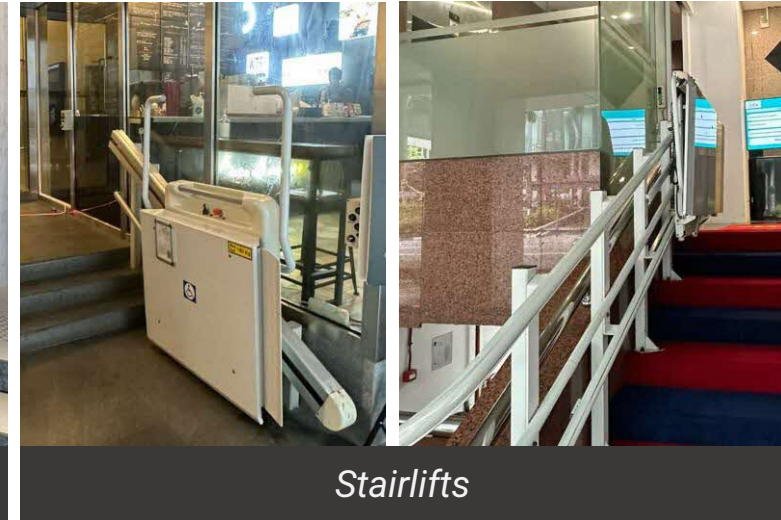


Passenger Lift

A **passenger lift** is the most suitable form of access for people moving from one storey to another (cl 4.10)



Platform Lifts



Stairlifts

For existing buildings in exceptional circumstances where a passenger lift cannot be accommodated, a **platform lift or a wheelchair stairlift** may be considered as an alternative option

# Q&A

## Enquiries

For clarifications, please contact us through BCA's Online Feedback Form at <https://www2.bca.gov.sg/feedback/>



# Thank You



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