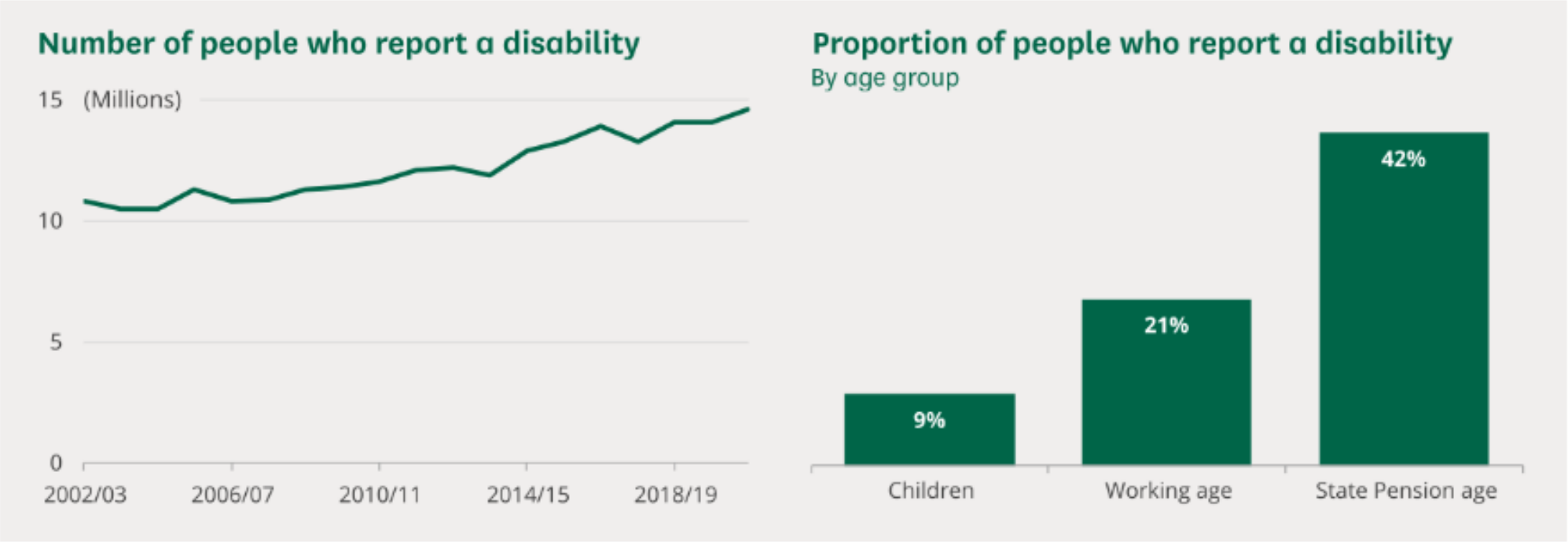
OUR ACCESSIBLE WORLD
THE ”NEW” PART 70

Globally an estimated 1.3 billion people experience significant disability.

This represents 16% of the world's population, or 1 in 6 of us.

[Source: https://www.who.int/news-room/fact-sheets/detail/disability-and-health#:~:text=Key%20facts,earlier%20than%20those%20without%20disabilities – accessed 05/06/23]



In the UK estimates indicate that 14.6 million people had a disability in the 2020/21 financial year.

https://commonslibrary.parliament.uk/research-briefings/cbp-9602/

BS EN 81-70:2021+A1:2022

BS EN81-70:2021+A1:2022 amendment was published 30th September 2022.

It supersedes BS EN81-70:2021.

Formal harmonization (designation) remains imminent.

The start and finish of text introduced or altered by amendment is indicated by tags: A1 A1

Key changes are:

- Modified requirements on luminance contrast
- Additional requirement for illumination of control devices
- New annex for guidance on measurement of luminance contrast

BSI Standards Publication

Safety rules for the construction and installation of lifts — Particular applications for passenger and goods passenger lift

Part 70: Accessibility to lifts for persons including persons with disability

bsi.

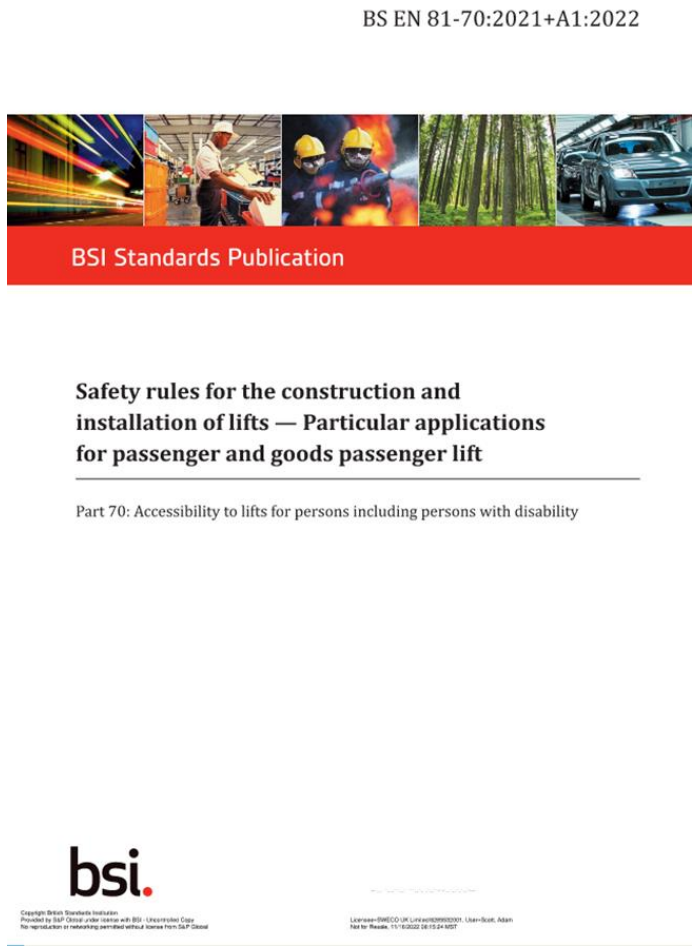
HOW TO READ A STANDARD

Shall – a requirement of the standard.
Compliance with the standard cannot be claimed unless all such clauses (including normative annexes) are complied with.

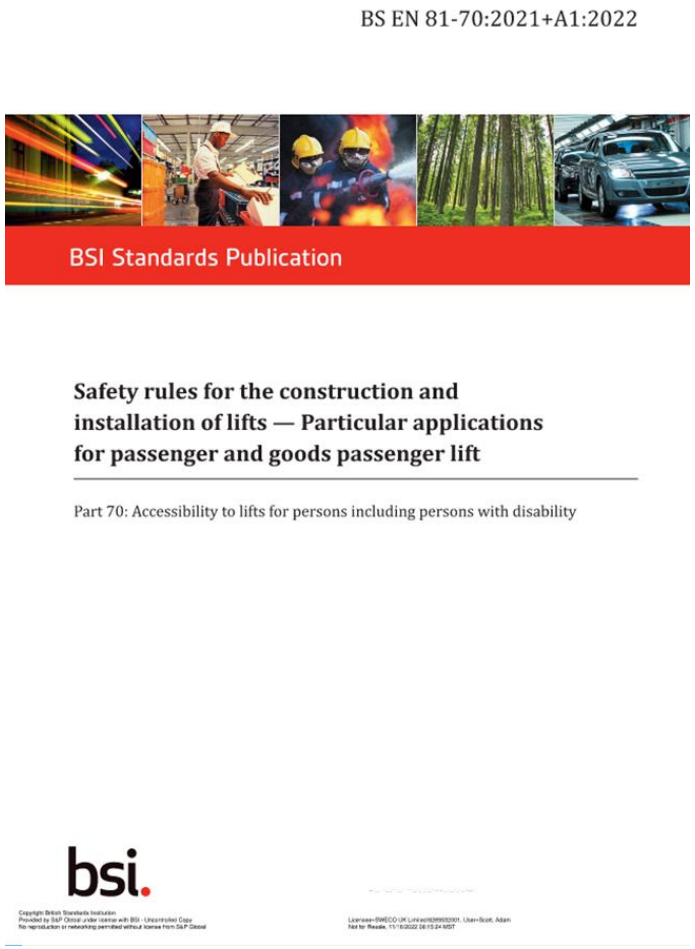
Should – a recommendation of the standard.
Compliance with these clauses is not required in order to claim compliance with the standard.

May – provides permission for options.

Can –provides options for compliance with a requirement or adoption of a recommendation.



- Annexes can be **Normative** or **Informative**
- Content within a **Normative** annex contains “shall” clauses and is therefore a requirement of the standard
- Content contained within an **Informative** annex contains “should” clauses and is therefore a recommendation of the standard.
- Where any normative clauses of the standard have not been followed, approval from a Notified Body is required to demonstrate conformity to the EHSRs of the Lifts Regulations.
- Any such approvals should be documented in Design Examination Certificates (DECs) and cross referenced on the Declaration of Conformity issued at the point the equipment is placed into service for the first time.



SO WHAT'S REQUIRED & WHAT'S CHANGED?

Contents

CIBSE Lifts Group

BS EN 81-70:2021+A1:2022

BSI Standards Publication

Safety rules for the construction and installation of lifts — Particular applications for passenger and goods passenger lift

Part 70: Accessibility to lifts for persons including persons with disability

bsi.

Table 3 — Minimum car dimensions for cars with a single entrance or two entrances

Type of car	Minimum car dimensions [a]	Accessibility level	Building types, usage	Remarks
1	Car width: 1 000 mm Car depth: 1 300 mm (450 kg)	This car accommodates one wheelchair user without an accompanying person.	Shall only be used in existing buildings where building constraints do not permit the installation of a type 2 car.	Type 1 provides only limited accessibility for persons using a manual wheelchair as described in EN 12183:2014 or an electrically powered wheelchair of class A described in EN 12184:2014. This type also provides accessibility for persons using walking aids (e.g. a walking stick) and for persons with sensory and intellectual disabilities.
2	Car width: 1 100 mm Car depth: 1 400 mm (630 kg)	This car accommodates one wheelchair user and an accompanying person.	Shall be the minimum size for new buildings.	Type 2 provides accessibility for persons using a manual wheelchair as described in EN 12183:2014 or an electrically powered wheelchair of class A or B as described in EN 12184:2014. This type also provides accessibility for persons using walking aids (e.g. walking sticks, crutches or rollators). Passengers with wheelchairs or walking aids are unlikely to be able to turn around in this type of car and have to leave the car backwards.
3	Car width: 1 100 mm Car depth: 2 100 mm (1 000 kg)	This car accommodates one user with a wheelchair of class C and some other passengers. It also allows transport of stretchers.	Recommended size for cars in public areas (e.g. outdoor facilities, stations, etc.) and for cars where transport of wheelchairs of class C shall be provided	Type 3 provides accessibility for persons using a manual wheelchair as described in EN 12183:2014 or an electrically powered wheelchair of class A, B or C described in EN 12184:2014. It also provides accessibility for persons using a manual wheelchair with tractor unit (propulsion attachment). When cars of this type are configured with two opposite entrances this can provide straight through circulation from the main entrance to different floor levels.
4	Car width: 1 600 mm Car depth: 1 400 mm or Car width: 1 400 mm Car depth: 1 600 mm (1 000 kg)	This car accommodates one wheelchair user and a few other passengers. It also allows a wheelchair to be rotated within the car.	Shall be the minimum size for cars with doors on adjacent walls[b].	Type 4 provides accessibility for persons using a manual wheelchair as described in EN 12183:2014 or an electrically powered wheelchair of class A or B as described in EN 12184:2014. Type 4 provides sufficient space for most wheelchairs users and for passengers with walking aids.
5	Car width: 2 000 mm Car depth: 1 400 mm or Car width: 1 400 mm Car depth: 2 000 mm (1 275 kg)	This car accommodates one wheelchair user and several other passengers. It also allows a wheelchair to be rotated within the car.		Type 5 provides accessibility for persons using a manual wheelchair as described in EN 12183:2014 or an electrically powered wheelchair of class A, B or C as described in EN 12184:2014. Type 5 provides sufficient turning space for persons using wheelchairs of class A or B and for persons using walking aids (e.g. walking frames, rollators, etc.).

[a] The car width is defined as the horizontal distance between the inner surface of the structural walls of the car, measured parallel to the front entrance. The car depth is defined as the horizontal distance between the inner surfaces of the structural walls of the car, measured perpendicular to the width.

[b] The distances between doors and adjacent car walls as shown in Figure 1 should be as large as possible.

Used with acknowledgement ©British Standards Institution

- These are **minimum** sizes – measured between structural car walls.
- Applied decorative finishes may be up to 15 mm thick.
- Note Type 3 is minimum for transport of stretchers.
- Note Type 4 is minimum for front and adjacent cars.

A **handrail** shall be installed on the side wall where the car operating panel is located as follows:

a) the handrail shall be interrupted where the car operating panel is located in order to avoid obstructing control devices;

b) the handrail may only be installed on one side of the car operating panel if the shorter side would not accommodate a handrail with an overall length of at least 400 mm;

c) the gripping part of the handrail shall have cross-sectional dimensions between 30 mm and 45 mm with a minimum radius of 10 mm (see Figure 2);

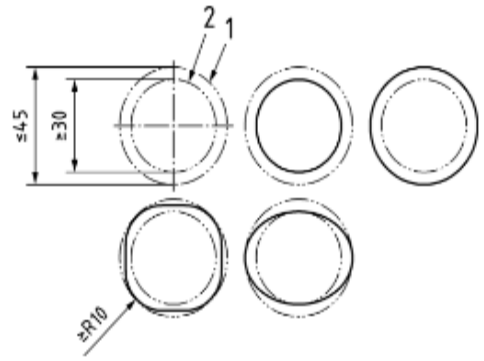
d) the distance between the wall and the gripping part of the handrail shall be at least 35 mm;

e) the height of the top edge of the gripping part of the handrail shall be 900 mm ± 25 mm from the finished floor level;

f) the ends of the handrails shall be closed. Where there is a risk of collision with the projecting ends, e.g. where the handrail is interrupted in front of the car operating panel, the handrail shall return towards the wall.

For car types 1, 2 and 3, the handrail may be installed on the opposite side wall if the handrail would restrict the car entrance width.

For car types 4 and 5 a second handrail shall be installed on the opposite side wall or on the rear wall.



Key
1 maximum outer circle for handrail profile
2 minimum inner circle for handrail profile

Figure 2 — Cross sectional dimensions of handrails

CONVENTIONAL CONTROL

Table 4 — Control devices-Requirements for design

#	Subject	Landing controls devices	Car controls devices
a)	Minimum area of active part of push buttons	490 mm²	
b)	Minimum dimension of active part of push buttons	Inscribed circle with a diameter of 20 mm	
c)	Identification of active part of push buttons	Identifiable visually (by contrast, see 5.1.2) and by touch (protruded) from face plate or immediate surrounds	
d)	Identification of face plate	Luminance contrast to its surrounds (see 5.1.2)[a]	Luminance contrast to its surrounds (see 5.1.2) in case of less than 5 buttons
e)	Operating force	2,5 N to 5,0 N	
f)	Operating feedback	Required to inform passengers that the button, once pushed, has been operated (e.g. button possesses perceivable movement or is provided with a system of mechanical feedback)	
g)	Registration feedback	Required to inform passengers that the call or function has been registered by visible and audible signal. The audible signal shall comply with 5.1.3 and shall be given on every individual operation of button even if the call is already registered.	
h)	Button for building exit floor	Not applicable	Protruded 5 mm ± 1 mm beyond the other buttons (preferably green)
i)	Position of symbol	When provided, on active part or 10 mm to 15 mm to the left of it	On active part or 10 mm to 15 mm to the left of it
j)	Symbol	When provided, in relief, luminance contrast to the background (see 5.1.2), 15 mm to 40 mm high	In relief, luminance contrast to the background (see 5.1.2), 15 mm to 40 mm high
k)	Height of relief of active part (c) and symbol (j)	Minimum 0,8 mm (recommended 1,0 mm)	
l)	Distance between active parts of call buttons or floor selection buttons	Minimum 10 mm	
m)	Distance between group of call or floor selection buttons and other group of buttons [b]	Not applicable	Minimum twice the distance between active parts of floor selection buttons

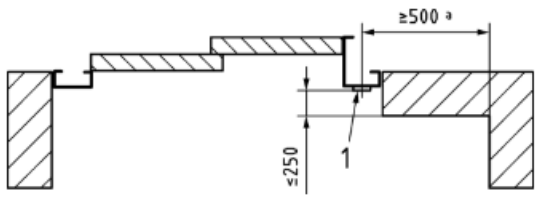
[a] Only required for collective controls where the control devices are not mounted in the door frame.

[b] E.g. between alarm-/ door buttons and floor selection buttons.

Table 5 — Control devices-Requirements for arrangement

#	Subject	Landing controls devices	Car controls devices
a)	Minimum height between the finished floor level and the centreline of the lowest button (door close button and additional control devices may be located at different height)	850 mm	
b)	Maximum height between the finished floor level and the centreline of the highest button	1 100 mm	1 200 mm (preferably 1 100 mm)
c)	Arrangement of buttons	Vertical	See 5.4.2.3.1, 5.4.2.3.3
d)	Minimum lateral distance between the centreline of any button to the corner of any adjacent walls	500 mm (Preferably 700 mm) The depth of any recess where the button may be located shall be limited to 250 mm (see Figure 3)	400 mm

Dimensions in millimetres



Key

1 landing button

a preferably 700

Figure 3 — Arrangement of landing buttons

5.4.2.3.2
Where push buttons are used for the operation of the lift they shall be identified as follows:

a) floor selection buttons: identified by symbols, (e.g. numbers, characters or pictograms) consistent with the building's floor nomenclature, preferably: –2, –1, 0, 1, 2, etc.;

b) alarm button: yellow with bell-shaped symbol (ISO 4190-5:2006, Table C.1, No. 1);

c) door open button: identified by the symbol ⧏I⧐ (ISO 4190-5:2006, Table C.1, No. 2);

d) door close button, where provided: identified by the symbol ⧐I⧏ (ISO 4190-5:2006, Table C.1, No. 3).

5.4.2.3.5
The car operating panel shall be located on the side wall as follows:

a) with centre opening doors, it shall be on the right hand side when entering the car from the main entrance side;

b) with side opening doors, it shall be on the closing jamb side when entering the car from the main entrance side;

c) when the car width exceeds 1 600 mm a car operating panel shall be provided on both side walls of the car;

d) in the case of cars with adjacent doors, a car operating panel shall be provided on each car wall

5.4.2.4 Landing signals

5.4.2.4.1 The illuminated signals according to EN 81-20:2020, 5.12.4.3, shall be arrows and shall be placed above or adjacent to the landing doors.

The indicator arrows shall be positioned between 1 800 mm and 2 500 mm above the finished floor level with an angle of view from the landing of at least 140° in the horizontal plane and 70° from the horizontal in the vertical down plane.

The height of the arrows shall be at least 40 mm.

For single lifts the indicator arrows may be placed inside the car at a height above the finished floor level

5.4.2.5 Car signals

5.4.2.5.1 A position signal shall be located within or above the car operating panel.

The centreline of the signal shall be positioned between 1 600 mm and 1 800 mm from the finished floor level.

The height of the floor numbers shall be between 30 mm and 60 mm.

Additional indicators may be located elsewhere, e.g. above the car door, or on a second car operating panel.

5.4.2.5.4 An induction loop according to EN 60118-4:2015 **should** be provided as hearing assistance for alarm systems. If provided, a symbol according to ISO 4190-5:2006, Table C.1, No. Nine shall be placed close to the microphone. The induction loop should also be used for announcements according to 5.4.2.5.2.

DESTINATION CONTROL

5.4.1.2 Control devices for destination control systems

Destination control systems may only be used where guidance to passengers about the specific operational features of the lift can be **ensured**.

NOTE Due to their complexity, destination control systems provide a lower level of accessibility for some passengers than collective control systems, particularly where a touch screen with an accessibility button and associated acoustic menu is used. When using the acoustic menu, passengers are required to listen, understand and react to audible information within a specific time period.

Annex C
(normative)

Touch screen devices for destination control systems

For touch screen devices, the following shall be provided:

a) The display screen shall be capable of providing a luminance of at least 300 cd/m². The active areas and symbols of the display screen shall provide suitable luminance contrast to their immediate surroundings. The background design shall be solid and static.

b) Touch buttons on the touch screen shall comply with Table 4 with the following exceptions and additional requirements:

   1) items c), d), e), g), h), i), j) k) and l) of Table 4 do not apply;

   2) the exit button shall be preferably green or have a green frame;

   3) the symbols shall be on the active area;

   4) the symbol height shall be between 15 mm and 40 mm;

   5) the distance between active parts of buttons shall be at least 5 mm.

c) The arrangement of the touch screen shall comply with Table 5 except c);

d) Lift assignment symbols on display screens shall be at least 25 mm high and shall be displayed for the duration of the associated audible announcement, if activated;

e) An accessibility button according to 5.4.3.1.2 shall be placed adjacent to the touch screen, preferably below, for activating the verbal announcements and floor selection according to Annex C f). It may also activate additional features like larger symbols and enhanced contrast, where appropriate;

f) Upon activation of the accessibility button, the following sequence shall be followed:

   1) sequential announcements of available destinations (e.g. at the entrance level counting from the lowest to the highest floor or at an upper floor starting with the entrance floor than counting from the highest to the lowest floor);

   2) selection of the destination by a subsequent operation of the accessibility button or by operation of the relevant touch button.

      In buildings with many floors, first a zone of destinations may be selected before the final destination is selected by another operation of the accessibility button.

NOTE For confirmation of and direction to assigned lift, see 5.4.3.3.

WHAT'S NEW

Contrast

Contrast

5.1.2 [A1] Where luminance contrast between adjacent surfaces is required, it shall comply with Table 2.

Table 2 — Requirements for luminance contrast

Clause	Item	Minimum light reflectance value point difference $LRV_1 - LRV_2$	Minimum luminance contrast C_M [%]	Minimum light reflectance value of lighter surface LRV_1	Viewing angle
Table 4, item c)	Active part of push buttons to their surrounding	30	-	-	45° above horizontal
Table 4, item d)	Face plates to their surrounding	30	-	-	Horizontal
Table 4, item j)	Symbols on push buttons to active areas	-	50	50	45° above horizontal
5.4.3.3 c)	Lift designation markings to background	-	50	50	Horizontal

NOTE 1 For determination of luminance contrast (Michelson contrast C_M) and light reflectance values (LRV), see informative Annex E. For further guidance on contrast, see ISO 21542:2021, 5.3 and Annex E.

NOTE 2 On shiny and direct reflective surfaces, unfavourable reflections can reduce luminance contrast. Light colour tones for ceiling and wall surfaces, diffuse reflective materials and a wide light distribution prevent disturbing reflections on the control devices. [A1]

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