

Two-Storey/Double Deck Regulations

All complex structures and double deck structures are subject to a pre-show plan checking process and onsite inspection by Reed Exhibitions appointed structural engineers. Permission to enter the exhibition premises will not be given until the certificate to build has issued by the Structural Engineer and Venue H&S have confirmed.

The **DEADLINE DATE** for submission of double deck documents is **17:00 hours GMT on 12 August**.

Any stands not submitted by **the deadline date above** will have the square metre rate for the upper deck area cancelled. Clients will then be required to re-contract for the upper deck square metres at a substantially higher rate.

It is vitally important that you meet this deadline date – we cannot guarantee that your stand will be allowed to be built if the requested documentation is submitted late.

Submissions must contain full working drawings, showing all the build elements, in particular –

- Height, width and depth of staircase steps
- Dimensions of staircase landings
- Height and material infills of handrails and balustrades
- Square metre of upper deck area. The maximum sqm allowed is no more than 50% of the stand sqm.
- Travel distance from the furthest point on the upper deck to a position off the stand
- Glazing details
- Ceiling details
- Position and orientation of doors

Also required as part of the submission are –

- **Structural calculations and drawings** to cover all structural elements on the stand deemed as complex
- **Visuals**
- **Risk Assessment**, which includes all the activities involved in building a complex stand and clear details of how the risks will be suitably controlled
- **Method Statement**, which includes details of how the structure will be built and in particular how the risk of working on a live upper deck edge will be suitable minimised/ controlled. It must also identify the person(s) responsible for the supervision and onsite for the duration of the build and dismantling periods
- **Construction and Dismantling Phase Plan**, which clearly states who is responsible for the design and for the construction.

The Organisers reserve the right to prevent work being carried out by, or on behalf of, any Exhibitor who has not submitted stand design drawings in accordance with the regulations.

Please find below a summary of some of the regulations for building Two Storey Regulations taken from the e-Guide edition (updated August 2021) please note that these regulations are subject to regular updates. To view the full e-guide please [click here](#).

Barriers/ Balustrades

Barriers shall be provided to protect exposed edges of staircases, landings, balconies, galleries and other changes of level. They shall:

- Provide guarding to all exposed edges of stairs and ramps at a height of 900mm above the pitch line and to landings and balconies at a height of 1.1m
- Be capable of resisting the forces set out in BS 6399-Part 1
- Be non-climbable, e.g. with solid infills or vertical guard rails a maximum of 100mm apart

Floor Loading & Upper Level Floor Loading

No bolting to the ExCeL floor is allowed. All two-storey structures must be self-supporting. Any structures lying over the duct covers must have base plates of a minimum 1m x 1m and 12mm thick to support a point load of up to 50kn. Point loads in excess of this and in certain areas of the venue will require larger base plates.

The floor of the upper level of a double-deck stand must be capable of withstanding a weight loading of 5kn/sqm.

Glazing

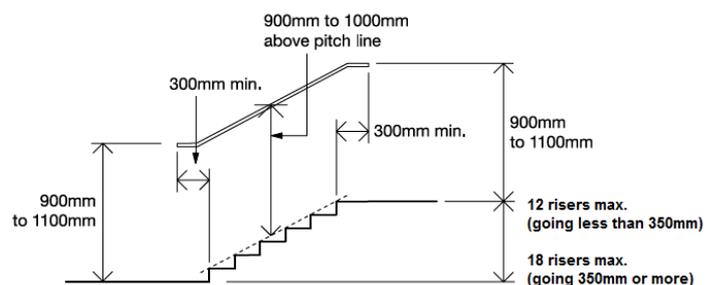
All glazing used in the construction of stands must consist of safety glass (laminated or tempered) a minimum of 6mm thick. Areas of glazing within 800mm of floor level and over 0.5m², where the smaller dimension of the pane is greater than 250mm, must conform to the thicknesses shown below (in order to comply with the 'Code of practice for safety related to human impact'):

Nominal thickness	Maximum pane size dimensions
8mm	1100mm x 1100mm
10mm	2250mm x 2250mm
12mm	4500mm x 4500mm
15mm or thicker	No limits

Any uninterrupted, large areas of clear glazing shall be indicated with warning stripes, dots, logos etc. Overhead glazing shall be of wired or laminated glass, or be otherwise adequately protected from shattering.

Handrails

- The vertical height to the top of the upper handrail from the pitch line of the surface of a ramp, flight of steps or landing must be between 900mm and 1000mm.
- Handrails shall be continuous across flights and landings of ramped and stepped access.
- Handrails shall extend at least 300mm beyond the top and bottom riser of any steps.
- Handrails shall contrast visually with the background against which they are seen, without being highly reflective.
- The surface of handrails shall be slip resistant.
- Handrails shall be terminated in a way that reduces the risk of clothing being caught.
- The profile of handrails shall be either circular, with a diameter of between 40mm and 45mm, or oval, preferably with a width of 50mm.
- The clearance between the handrail and any wall shall be between 60 and 75mm.
- Double-width staircases shall have a central handrail.
- The clearance between a cranked support and the underside of the handrail shall be at least 50mm.
- Handrails shall be non-climbable, e.g. with solid infills or vertical guardrails, which should be no more than 100mm apart and without horizontal members between verticals.



Platforms over 600mm

Stages 600mm and above in height and all stages for public use are deemed to be complex; the procedures for complex structures must be followed.

Ramps

If constraints necessitate an approach of 1:20 or steeper, an approach incorporating a ramp should be provided.

A ramp must be either readily apparent or the approach to it clearly sign-posted.

The gradient of a ramp flight and its going between landings should be in accordance with the following table:

Going of a ramp*	Maximum Gradient	Maximum Rise
10m	1:20	500mm
5m	1:15	333mm
2m	1:12	166mm

*For goings between the above lengths, the gradient will be adjusted accordingly

- Ramps must not be greater than 10m, or have a rise of more than 500mm.
- Ramps shall have a minimum, unobstructed width of 1.5m.
- The ramp surface must be slip resistant, especially when wet and of a colour that contrasts with that of the landings.
- A landing at least 1.2m long and clear of any door swings or other obstructions must be provided at the foot and head of the ramp.
- Intermediate landings must be at least 1.5m long and clear of any door swings or other obstructions.
- Intermediate landings at least 1800mm wide and 1800mm long must be provided as passing places when it is not possible for a wheelchair user to see from one end of the ramp to the other, or if the ramp has three flights or more.
- Handrails must be provided on both sides of a ramp which has a gradient steeper than 1:20. Where it is impractical to comply with this legal obligation, a risk assessment must be provided to and approved by the organiser.
- Where the change in level is no greater than 300mm, a ramp should be provided instead of a single step.
- Where the change in level is 300mm or more, 2 or more clearly signposted steps should be provided in addition to the ramp.
- All landings should be level, subject to a maximum gradient of 1:60 along their length.
- A kerb at least 100mm high, which contrasts visually with the ramp or landing, must be provided on the open side of any ramp or landing, in addition to any guarding required.

Stepped Access

- A level landing must be provided at the top and bottom of each flight.
- Landings shall have a minimum, unobstructed length of 1.2m.
- Flights shall have a minimum, unobstructed width of 1.1m.
- Doors shall not swing across landings.
- Flights between landings shall contain no more than 12 risers where the treads are less than 350mm and no more than 18 risers where the treads are 350mm or greater.
- The tread and riser of each step must be consistent throughout a flight.
- The rise of each step must be between 150mm and 170mm.
- The tread of each step must be between 280mm and 425mm.
- Risers must not be open.
- All nosings must be made apparent by means of a permanently contracting material 55mm wide on both the tread and the riser.
- The projection of a step nosing over a tread below should be avoided, but if necessary it must not exceed 25mm.
- A continuous handrail must be provided on each side of flights and landings.
- A single staircase shall not exceed 1.8 metres in width.
- Where a staircase is divided into more than one channel, no single channel shall be less than 1 metre wide and an additional handrail must be provided between channels.
- Spiral staircases are only permitted for exhibiting staff use and not for members of the public.
- Helical stairs are permitted where they comply with this guidance and their use is approved by the venue.

- Cupboards formed beneath the staircase shall be lined throughout with non-combustible material.
- Where the means of access to trailers, boats, caravans and other, similar exhibits is manufactured as an integral part of the product, it may not comply with the above regulations. In such a case an appropriate risk assessment is required. As a minimum, it must comply with the following:
 - o The headroom must be a minimum of 2m
 - o The width may not be less than 450mm and must be at least equal to the width of the entrance to the exhibit
 - o The risers must not exceed 170mm in height.
 - o Each tread must be a minimum of 280mm in depth
 - o The width of landings at top and bottom must be equal to the width of the steps
 - o Handrails must be provided

The venue will additionally accept stepped access complying with the specifications of BS 5395. However the use of stepped access that is not compliant either with this standard or with the specifications given above (e.g. pre-existing modular and system staircases) will be subject to venue approval on a case by case basis.

Travel Distance

In ideal circumstances there will be a minimum of two separate staircases leading from any floor above ground level. However, in the following situation, a single staircase is acceptable:

- No more than 60 people will occupy the level served by the staircase at any one time (public, performers and staff inclusive)
- No part of that floor of the upper storey of a stand is more than 20 metres away from the gangway. This should be reduced to 15 metres where alcohol is being served on the upper deck

The occupancy of the upper deck is calculated according to the use of the area. For example, if the upper deck has tables and chairs (e.g. conference, sales area, bar or restaurant), the occupancy can be no more than 1 person per square metre.