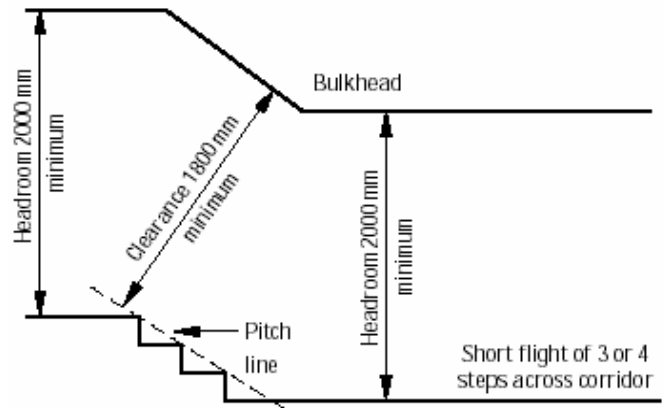


Guidance for the design and construction of steps, ramps and balustrades

Stepped access, ramps and balustrades

1. Stepped access having a total rise of more than 600mm.

- a. The headroom shall not be less than 2000mm over any part of the stairway or landings and there shall be a clearance of at least 1500mm.
- b. Additional headroom must be provided where short flights of three or four steps occur across a corridor. There is a tendency for some persons using such a flight to jump down all the steps at once. In these circumstances, the clearance should be at least 1800mm (see illustration). A bulkhead should be incorporated rather than a down-stand beam whenever a short flight occurs across a corridor.



- c. The width shall be at least 1m wide and if not subdivided by a central handrail, no more than 1.8m wide.
- d. There shall be no fewer than 3 or more than 12 risers per flight.
- e. The risers between steps shall not exceed 170mm in height and must be infilled.
- f. Each step shall have an available tread, measured on plan, of not less than 280mm.
- g. The going of the landing shall not be less than the width of the stairway.
- h. Where tapered steps are constructed, the angle formed by the nosing of the tread and the nosing of the tread or landing immediately above it shall not be more than 15°.
- i. Stairs and landings should be provided with protection against falling over the edge of the treads.
- j. Gaps in the guarding must not exceed 100 mm.
- k. Guarding should be designed in such a way as to discourage young children from climbing it.
- l. Triangular openings may be left between the treads, the risers and the guarding, provided that the bottom of the guarding is not more than 50 mm above the pitch line.
- m. Handrails must be securely fixed on any open side at a height of not less than 900mm nor more than 1000mm above the line of the pitch of the flight and balustrades not less than 1100 above landings.
- n. Where stairs are enclosed on both sides with a wall, a continuous handrail must be provided on at least one side of the length of the flight if the steps are less than 1.0m and on each side if the width is 1.0m or more.

Guidance for the design and construction of steps, ramps and balustrades

- o. A suitable handrail should be rigid and strong enough to provide adequate support for users, be comfortable to grip and provide adequate resistance to hand slippage.
 - p. In areas open to the general public all handrails and balustrades must have vertical railings at 100mm c/c maximum or solid infills and shall be capable of withstanding a horizontal force of 3kN per metre of length.
 - q. In private areas with controlled access, handrails and balustrades must be fit for purpose and capable of withstanding a horizontal force no less than 1.5kN per metre length.
 - r. The treads and landings must be level and shall not be constructed of slats or perforated material.
 - s. Consecutive tapered treads shall each have the same going and rate of taper.
- 2. Cupboards formed beneath steps and ramps shall be lined throughout with non-combustible material.**
- 3. Steps shall discharge onto the ground floor of the hall at a point where unimpeded access to a public gangway is achieved. If the occupants of the raised area have no choice but to make their way to single escape steps, the travel distance from any part of the upper area to those steps must not exceed 10m.**
- 4. Any ramp having a total rise of more than 600mm shall comply with the requirements of 1 above. The slope of the ramp shall not exceed 1 in 12.**
- 5. Balustrades shall comply with the recommendations of Approved Document K to the Building Regulations and BS 6180. Balustrades must be provided to protect exposed edges of landings, balconies including any change in level exceeding 360mm and must comply with the requirements of 1. (j) and (k) above.**
- 6. *Purpose built access steps provided as a product, to gain access to boats, motor homes, static caravans and other similar exhibits are required to comply with BS 5395-1:2000 generally as follows:**
- a. The headroom shall not be less than 2000mm over any part of the stairway or landings.
 - b. The width of the steps and platform or landing may not be less than 450mm, provided that the width is equal to or greater than the entrance width of the exhibit.
 - c. The risers between steps shall not exceed 170mm in height and must be infilled so that the gap between the treads is not greater than 100mm.
 - d. Each step must have an available tread, measured on plan, of not less than 280mm, and shall not be constructed of slats or perforated material.
 - e. The depth of the clear area or "landing" at the top and bottom of the steps must not be less than the width of the steps.
 - f. Open steps provided as a product must be temporarily adapted to provide solid treads and risers.
 - g. Handrails on all stairs and platforms must be provided in accordance with the requirements of 1. (above).

*Note: This paragraph does not relate large/full-size access stairs to, for example, very large boats etc which are required to be designed in accordance with 1. (above).

Phone: 07974 768553 or Email: info@consultmartin.co.uk

Further information: www.consultmartin.co.uk