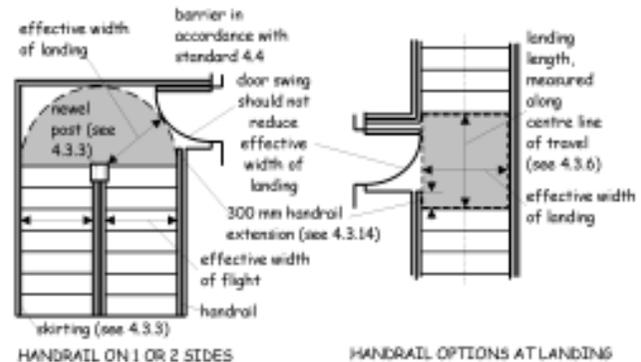
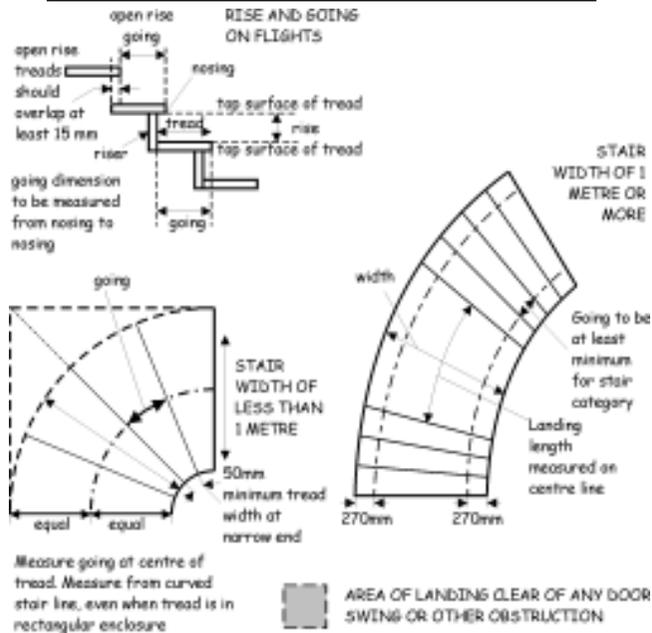


Stairs



The geometry of a stair flight can have a significant effect on the ability of people to use a stair safely and conveniently and limits should be placed on the rise and going of a stair, and steepness of pitch. To provide safe and convenient access, the rise, going, tread and pitch of a flight in a stair should be in accordance with the table below:

Minimum Rise (mm)	Maximum Rise (mm)	Minimum Going (mm)	Tread Maximum Pitch
100	220	225	not less than going 42°

Notes:

1. all rises in a flight should be of uniform height;
2. in a straight flight, or in a part of a flight that is straight, measurement should be uniform along the centreline of the flight;
3. where a flight consists partly of straight and partly of tapered treads, the going of the tapered treads should be uniform and should not be less than the going of the straight treads;
4. the going measured at the narrow end of a tapered tread should be at least 50 mm;
5. the aggregate of the going and twice the rise should be at least 550 mm and not more than 700 mm. For example, stairs provided with the minimum going of 250 mm would result in rises of at least 150 mm;
6. the maximum rise and minimum going on a private stair should not be used together as this will result in a pitch greater than the recommended maximum;
7. The most comfortable combination of rise and going varies between individuals but in general, a going in excess of a minimum value, resulting in a figure in the upper end of the range in note 5, above, will increase both safety and amenity.

On that part of a flight consisting of tapered treads, the going of the tapered treads should be uniform and should not be less than the going of the straight treads. At the inner end of the tread, the going should be at least 50mm.

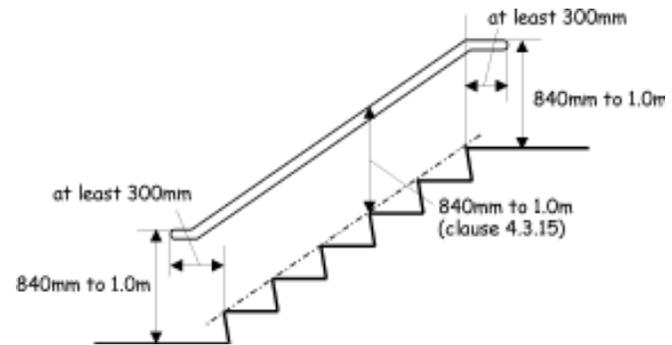
Stairs formed from tapering treads, particularly where forming a spiral, can present greater difficulties in use for many people than straight flights. There should be an appropriate level of safety and amenity on such stairs, particularly where used as a primary means of access. A flight consisting wholly of tapered treads, forming a helix or spiral, should be constructed to give safe passage. To achieve this, it should be constructed in accordance with the guidance in BS 5395: Part 2: 1984, but account should be taken of the following guidance clauses:

- minimum and maximum rise should be as recommended in table on previous page;
- the effective width should be 900mm;
- the max number of rises on a flight should be 16;
- other than on a *private stair*, risers and treads should be as shown and described on back page;
- handrails & protective barriers should be as recommended overleaf.

The clear, or effective width of a private stair should be at least 900mm. The effective width should be measured between handrails or, where there is no handrail present, between any walls or protective barriers.

A landing should be provided at the top and bottom of every flight. The minimum length of a stair landing, measured along the centre line of travel, should be either 1200 mm, or the effective width of the stair, whichever is least.

A handrail should be provided to any flight where there is a change of level of more than 600 mm. A handrail need only be provided to one side on a flight of a private stair, however the side on which a handrail is not fixed should permit installation of a second handrail at a future date. A handrail should be fixed at a height of at least 840 mm and not more than 1.0 m, measured vertically above the pitch line of a flight on a stair and on a landing where a handrail is provided.

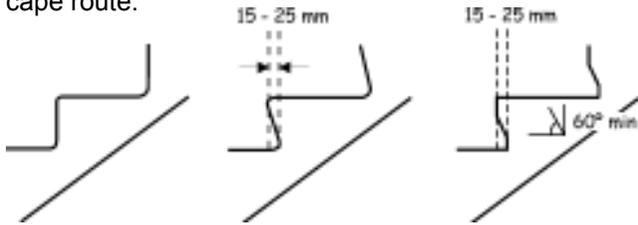


A protective barrier for pedestrians should be at least 1100mm and should be provided at the edge of every floor, stair, landing or other raised area to which people have access, where there is a difference in level of 600mm or more; and any change in direction on an access or circulation route which is raised above the level of the surrounding surfaces.

Openings in a protective barrier should prevent the passage of a 100 mm diameter sphere. However, the space between a rise in a stair and the lowest edge of the protective barrier may be larger than 100 mm, provided the lowest edge of the barrier is not more than 50 mm above, and parallel to, the pitch line of the stair.

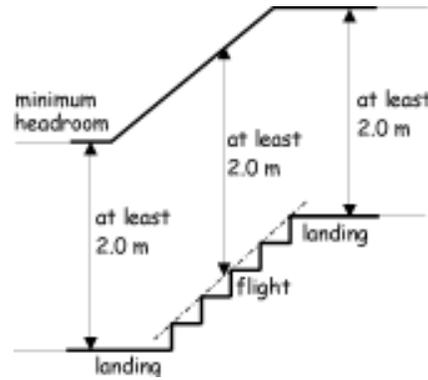
Protective barriers should also minimise the risk of persons falling or slipping through gaps. The height and form of a barrier are both important, particularly to prevent a fall resulting from an intentional act, such as climbing. Young children are often adept at climbing anything within their reach. It is important therefore that barriers are designed to minimise potential hand and footholds within dwellings, and within common areas and on access routes to domestic buildings. Horizontal barriers would therefore be unsuitable in these situations due to the increased risk of accidents involving young children.

Open risers on a flight can be a hazard. A stair should have contrasting nosings to assist in identifying the position of treads and risers should be profiled to minimise tripping as shown below. Open risers should not be used unless a stair is intended for descent only, such as in a dedicated escape stair on an escape route.



However, a private stair may be constructed with open risers and without contrasting nosings as occupants will be more familiar with the stair through frequent use. Small children can climb or fall through gaps in stair treads and the size of such gaps should be limited to prevent this. In a flight with open risers, the treads should overlap by at least 15 mm. Any opening between adjacent treads in a flight should be small enough to prevent the passage of a 100 mm sphere.

A flight or landing on a stair or ramp should have clear headroom of at least 2.0 m extending over the whole of the effective width. Height should be measured vertically from the pitch line of the flight or from the surface of the landing (Please see the diagram overleaf). However in a dwelling where any portion of a flight or landing lies outwith the area needed to maintain the effective width of a flight or landing, a reduction in headroom may be considered, provided that no dangerous obstructions or projections are created.



Please note that this leaflet is merely intended to provide supplementary guidance. Should you have any doubts about whether any work requires a building warrant or whether it complies with current regulations please consult the Building Standards Section at the number shown below.

Please also note that works of the nature included in this leaflet may require a Building Warrant.

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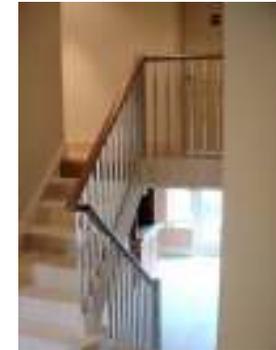
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Building Standards

Stairs



The purpose of this leaflet is to provide additional guidance on the construction of stairs and also requirements for future provision of a stairlift in accordance with the current building regulations.

Please take one.

Should you need further assistance then please do not hesitate to contact one of our Building Standards officers.

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