

STAIRWAY SPECIFICATION & BUILDING REGULATIONS

“Stairs, ladders and ramps shall be designed constructed and installed as to be safe for people moving between different levels in or about the building.”

– from Building Regulation Document K, 2013, Schedule 1

This overall statement leads to five documents, which give guidance for the design of stairs (and associated Stair Nosings) for use in buildings with public or shared use:

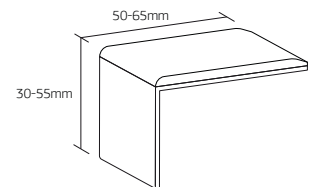
1. **Building Regulation Document K: Protection from falling**
2. **Building Regulation Document M: Access to and use of buildings**
3. **BS 8300:2009+A1:2010: Lighting of stepped access and slip resistance**
4. **BS 9266:2013: Design of accessible and adaptable general needs housing**
5. **BS 5395-1:2010: Stairs, Ladders and Walkways**
6. **Building Research Information Paper – IP15/03: Proprietary nosings for non-domestic stairs**

These documents indicate the following best practice recommendations and guidelines for Stair Nosing specification.

A. The recommended dimensions of a Stair Nosing:

BR (K&M), BS8300, BS9266 & BS5395

BR K, BS8300, BS9266 and BS5395 state the tread should measure between 50–65 mm and the riser 30–55 mm. BR K&M refer to both tread and riser as being 55mm. This apparent difference can be reconciled by specifiers and contractors since both sets of guidance are correct. The principle requirement is that the nose of a step is clearly defined, and a proprietary stair nosing with any of these dimensions can achieve this. Quantum Flooring Solutions has a wide selection of Stair Nosings which have these dimensions.

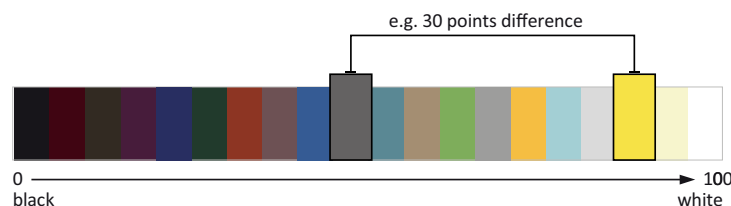


B. The recommended Light Reflectance Value (LRV) colour of a Stair Nosing:

BR (K&M), BS8300, BS9266 & BS5395

The colour of the Stair Nosing is required to differ from that of the floorcovering. Every colour has a LRV between 0 (Black) and 100 (White). There should be at least 30 points difference between the Stair Nosing LRV and the floorcovering, e.g. If the floorcovering has a LRV of 50, then the Stair Nosing should have a LRV of between 0–20 or 80–100.

This creates a ‘ladder effect’ which helps the partially sighted when ascending or descending stairs. The Quantum Flooring Solutions range of tread and channel (UPVC) colours have LRVs, ranging from 5 to 81.



C. The recommended slip resistance of a Stair Nosing for the environment:

BR M, BS8300 & BS5395

The slip resistance of the tread material used in a Stair Nosing is an important element for the safety and performance of stairs. There are two traditional tests that can be carried out to determine the slip resistance of a flooring material. The pendulum test (PTV) and a surface micro roughness measurement (Rz). Either of these can be used to give an indication of the slip resistance of a material.

Quantum Flooring Solutions' PVC tread material has been laboratory tested and has a PTV reading greater than 36 and a micro roughness reading, taken off new and used treads, of >20 Rz in both wet and dry conditions. Both these results classify the PVC tread material as being of a 'low slip potential' or risk.

D. The recommended coverage of the tread material on a Stair Nosing:

IP 15/06

The tread is the surface of the Stair Nosing which receives ascending or descending footfall. The Stair Nosing tread material should extend to the front edge to the point at which it meets the vertical face to minimise the risk of a slip in descent. Every profile within the Quantum Flooring Solutions' Q-Range of Stair Nosings meets this point of guidance.

E. The recommended warning for an approaches to stairs:

BR M and BS8300

Corduroy tactiles should be installed as a hazard warning surface at the top and bottom approaches to stairs, which will warn pedestrians that they are approaching steps. Quantum Flooring Solutions offers corduroy tactile tiles in 4 different colours.

(Note: Current best practice is that this guidance generally applies to approaches to external stairs).

F. Other considerations:

There are a number of other considerations for steps and Stair Nosings that should be born in mind when looking to create safe stairs that achieves good practice guidelines.

- I. Bull nose steps: These can create a trip hazard to partially sighted users, who use their foot to find the nose of the step in ascent.
- II. Open riser steps: These again create a trip hazard and it is not possible to get a LRV contrast on the open riser.
- III. Shiny metal Stair Nosing: These can create glare in artificial or direct sunlight.
- IV. Double channel Stair Nosings: Technically they are too wide to meet the 50–65 mm Building Regulation guidance, however, if there is a wide going on the tread and heavy foot traffic, double channel Stair Nosings can be applied as long as a clear ladder effect is still created and the stair is safe.

Throughout Quantum Flooring Solutions' materials the products that can be used to ensure best BR/BS/BRE practice can be identified by the **Building Regulations Best Practice** logo.

