

Guidance Document

G0133

Guidance on Stairways and Ramps

Issue No.: A1

Issue date: March 2014
Review date: March 2019

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1 Purpose

- 1.1 In the London Underground environment, whilst stairs are generally safe, they still represent one of the highest risks within the Premises asset area, to both customers and staff. Poor or inadequate design, construction and maintenance of stairs, and to a lesser degree ramps, can be contributory factors to a risk of falling.

A primary purpose of this document is to ensure that such risk is minimised by providing support to the delivery of project or maintenance works on assets required to comply with the LU Cat 1 standard S1133 Premises – Stairways and Ramps.

- 1.2 Stairways and ramps in the public area are used by large numbers of customers who could be considered to be at greater risk of falls; for example those who have restricted mobility, those who are encumbered with luggage or pushchairs, the elderly, young children, customers who may be rushing, distracted or intoxicated. It is therefore imperative that stairways and ramps are designed, constructed and maintained in such a way as to enable their safe use whilst minimising the potential for incidents.
- 1.3 The Guidance, CIRIA C722 'Safer stairs in public places – assessment of existing stairs' should be referred to and the guidance followed, particularly in the refurbishment of existing stairs.

2 Scope

- 2.1 This Guidance applies to the design and performance requirements for stairways and ramps, including stair flights, landings, nosings, corduroy hazard warning surfaces, ramps and handrails in new or modified assets.

Although there is some reference here to guarding/barriers to stairs and ramps, this Guidance does not provide comprehensive guidance on this aspect of stairways and ramps. For requirements associated with these elements, refer to S1132 Premises – Barriers and Fencing (Non-Lineside) together with the associated Guidance Document G0132 Guidance on Barriers and Fencing.

For the relevant references to be used for stair and ramp finishes, refer to section 3.6.

- 2.2 For the purposes of this Guidance and the associated Standard S1133 Premises – Stairways and Ramps, stairways include:

- a) Public stairways and ramps
- b) Staff stairways and ramps
- c) Escape stairways and ramps
- d) Maintenance stairways - which may be a stair, ladder or ramp.

- 2.3 The dimensions for stairs referred to in this Guidance do not apply to curved or spiral stairways. For guidance on the dimensions of curved or spiral stairs which may only be used to replace the equivalent existing asset, refer to BS 5395-2 Stairs, ladders and walkways. Code of practice for the design of helical and spiral stairs.

3 Guidance

3.1 Definitions and Abbreviations

3.1.1 The following terms are used in this document:

Flight – series of steps between adjacent landings.

Going – the dimension from the front of the nosing on one tread to the front of the nosing on the next tread.

Handrail – component that provides guidance and support at hand level.

HDLT – Heavy Duty London Transport. HDLT pattern stair nosing is the cast nosing traditionally used on LU public stairs.

Ladder – a fixed means of sloping or vertical access, using horizontal rungs, which has a pitch greater than 70°.

Landing – platform or part of a floor structure at the end of a flight or ramp or to give access to a lift.

Nosing – front edge of tread or landing. Applied nosings are a material added to the leading edge of a tread to provide visual contrast to the step and/or to protect the tread material from wear.

Pedestrian guarding – any element of building or structure intended to prevent persons falling over an edge or to control the direction of flow.

Ramp – construction that provides a continuous slope from one level to another.

Riser – vertical or near vertical face of step.

Step – part of a stair that consists of a horizontal surface (tread) and a vertical surface or space (riser) that results from the change of level.

Tread – the horizontal part of a step. The tread is the part of the step on which the foot is placed.

3.1.2 There are a number of references to visual contrast in this guidance. Visual contrast is assessed by measuring the difference in Light Reflectance Value (LRV) between two surfaces or elements. On stairways and ramps these are:

- a) Nosings and the adjacent tread;
- b) Nosings and the adjacent riser;
- c) Handrails and the adjacent wall or background;
- d) Treads and the adjacent walls;
- e) Ramp surface and the adjacent walls and landings.

For further explanation and information on how to measure visual contrast, refer to BS 8300. See especially Annex B.

3.2 Stair and Ramp Design

3.2.1 In accordance with BS 5395-1, the most important contributor to stair safety in the design of public stairs is the dimension of goings. Going dimensions in new stairs shall therefore be a minimum of 300mm wide. This minimum dimension limits the possibility of large oversteps being taken and consequent potential falls. A minimum 300mm wide going also enables use by customers with a wide range of ability to use steps.