

Technical Specification

T0440 Tube 4-foot walkway panels

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1 Purpose

The purpose of this technical specification is to define the performance requirements and acceptance criteria for four-foot walkway panels within the tube environment.

2 Scope

This technical specification relates to four-foot walkway panels which may be installed to span the drainage channel in tube running tunnels as an alternative to filling the channel with shingle. The tube track concerned may be either sleepered or not.

3 Requirements

3.1 Performance in track

3.1.1 Walkway panels are to be able to span a maximum of 850mm wide channel and sit within a 75mm wide by 50mm high rebate (total cover width of 1000mm including rebate either side) as shown in Figure 1, and sustain the following loads:

- 1) a uniformly distributed load of 5kN/m² with deflection not exceeding 0.5% of span.
- 2) Point loads from "Iron Men" rail handlers without permanent deflection. (Iron Men are lifting frames mounted on wheels; they have a self weight of 135kg and a safe working load of 1500kg. For further details and load cases to be considered refer to Attachment 2.)

3.1.2 Walkway panels shall lend themselves to straightforward site fabrication and assembly using standard hand tools without the use of hot works or heavy equipment.

3.1.3 Walkway panels shall have a grated structure with at least 45% of the total surface as voids. A grating size of 17x17mm has been assessed by LU as providing a safe walking surface for staff and detaining passengers; if the supplier proposes an alternative configuration he shall provide LU with evidence that such configuration is no less safe.

3.1.4 The walkway panels shall have an anti-slip surfacing: see clause 3.4.3.

3.1.5 In order to allow a one-man lift the maximum panel size of 1000x1000mm shall weigh no more than 25kg.

3.1.6 In order to resist aerodynamic uplift the maximum panel size of 1000x1000mm shall not weigh less than 23kg.

3.1.7 The material shall be corrosion and chemical resistant for the tube environment. Refer to Attachment 1 for environmental performance criteria.

3.1.8 The intended service life of the walkway material shall be nominally 50 years. The supplier shall provide assurance to this effect.

3.2 Material composition and finish

3.2.1 The composition of the panel material shall be declared to LU by the supplier.

3.2.2 The panels shall not include metallic or electrically-conductive materials.

3.2.3 Changes to the design, materials or the production process from those used for type approval testing shall not be introduced without prior approval from LU. LU may require the repetition of the type approval tests described in this specification before approving changes.