

Technical Specification

T0438 Composite sleepers, bearers and pitblocks

Issue: A1

Issue date: October 2013
Review date: October 2016

MAYOR OF LONDON

AVA **Documents**
Document Sharing Hub



Contents

1	Purpose	3
2	Scope	3
3	Requirements	3
3.1	Performance in track	3
3.2	Material composition	3
3.3	Dimensions	3
3.4	Acceptance testing	4
3.5	Other material and product characteristics	6
3.6	Labelling and storage	7
3.7	Recycling and disposal	7
3.8	Information to be supplied by the manufacturer for the purpose of type approval	7
3.9	Certification	7
3.10	Quality assurance	7
4	Responsibilities	8
5	Supporting information	8
6	References	8
6.1	References	8
6.2	Person accountable for the document	8
6.3	Document history	9
7	Attachments	9
7.1	Attachment 1: Train loading and environmental performance criteria	9

1 Purpose

- 1.1 The purpose of this specification is to define the performance requirements and acceptance criteria for sleepers, bearers and pitblocks manufactured from composite materials (typically plastics).

2 Scope

- 2.1 This specification relates to:
- a) sleepers and bearers for use in ballasted track in Open and Sub-surface locations;
 - b) sleepers and bearers for use in concreted track in Tube running tunnel locations;
 - c) pitblocks for use in Tube station locations;
 - d) sleepers and longitudinal bearers for use on non-ballasted metal underbridges;
 - e) longitudinal bearers in locations where transverse sleepers cannot be used.

3 Requirements

3.1 Performance in track

- 3.1.1 Composite sleepers, bearers and pitblocks shall be suitable for the traffic loading and track conditions set out in Attachment 1.
- 3.1.2 Pitblocks are located within the pit wall at Tube stations and are exposed on one end face. In order to maintain their lateral stability they therefore require to be positively anchored into the wall or to be suitably shaped in plan or provided with suitably configured side surfaces to prevent lateral movement.
- 3.1.3 The intended service life of composite sleepers, bearers and pitblocks is nominally 50 years.

3.2 Material composition

- 3.2.1 The material may comprise 100% post-consumer waste plastics or composites, or newly-manufactured content, or a combination thereof. The composition shall be declared to LU by the supplier.

Note: LU is committed to improving the sustainability of the materials it uses and therefore has a preference for recycled materials where these are capable of achieving the required performance.

- 3.2.2 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.

3.3 Dimensions

- 3.3.1 Dimensions and their tolerances shall be as in the table below:

Dimension	Unit	Sleeper	Bearer	Pitblock
Width	mm	250 ±3	300 ±3	220 at top 235 at base
Depth	mm	130 ±2	150 ±2	130 ±2
Length	mm	2600 ±10	length ±10	390
Tolerances for distortion (sideways and vertical bending, surface convexity or concavity, and twist) and end-squareness shall be taken as nominally zero.				

- 3.3.2 A sleeper length of 2600mm is typical and will be confirmed at the time of order. Bearer lengths are typically between 2600 and 6100 mm and will be confirmed at the