BS EN 16432-2:2017
Incorporating Corrigendum January 2018

BSI Standards Publication

Railway applications - Ballastless track systems

Part 2: System design, subsystems and components

bsi.

National foreword

This British Standard is the UK implementation of EN 16432-2:2017. BSI, as a member of CEN, is obliged to publish EN 16432-2:2017 as a British Standard.

Attention is drawn to the fact that during the development of this European Standard, the UK committee identified several issues relevant to the UK implementation of the Standard.

It is the view of the UK committee that further clarity is necessary for designers and practitioners within the UK. The areas for clarification are:

1) This standard makes reference to a "Finite Element Method (FEM)" for analysis of ballastless track. FEM may be considered a generic term for validated numerical methods involving discretisation of the problem using shell, beam, brick or similar elements, and also incorporating the ground or substrate below, either explicitly using finite elements or using grounded springs with equivalent properties, so as to allow an appropriately accurate simulation of the track system structure together with its support medium. The emphasis here is that use of the most current, validated and industry-accepted numerical analysis methods is allowed according to this standard and such alternatives may represent the best, or acceptable, approaches for a specific project.

2) Regarding the use of the modulus of deformation (Ev2), there is no standardized methodology in the UK for determining this parameter from a static plate loading test. Reference can be made to other nations' Standards.

3) Recommendations concerning CEM I shall not be considered mandatory.

4) This standard makes reference to a track structure designed using the concept of a reinforced concrete road pavement, with reinforcement located at or near the neutral axis of the concrete section. Alternative design concepts may be considered, particularly where required for extended design life or other project requirements. These include reinforced concrete beams or slabs (continuous or otherwise) with reinforcement away from the neutral axis and designed using the concept of a reinforced concrete structure. These should follow guidance given in the relevant structures codes for reinforced concrete, covering aspects including exposure conditions, design life, reinforcement, concrete mix, cover to the reinforcement, maximum crack widths and other strength and durability requirements.

The UK participation in its preparation was entrusted to Technical Committee RAE/2, Railway Applications - Track. Membership of the subcommittee Ballastless Track included representation from: HS2, Network Rail, London Underground, UK Tram, Balfour Beatty, Amey, Rhomberg Sersa UK, Carillion, Beazley Sharp, Arup, Mott MacDonald, Schwihag, ERT, Pandrol, WSP, Tiflex and RSSB.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Compliance with a British Standard cannot confer immunity from legal obligations.

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Railway applications - Ballastless track systems - Part 2: System design, subsystems and components

Applications ferroviaires - Systèmes de voies sans ballast - Partie 2 : Conception du système, sous-systèmes et composants

Bahnanwendungen - Feste Fahrbahn-Systeme - Teil 2: Systementwurf, Untersysteme und Komponenten

This European Standard was approved by CEN on 28 May 2017.

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European foreword

This document (EN 16432-2:2017) has been prepared by Technical Committee CEN/TC 256 “Railway applications”, the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2018, and conflicting national standards shall be withdrawn at the latest by February 2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive 2008/57/EC.

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

This European Standard is one of the series EN 16432 “*Railway applications — Ballastless track systems*” as listed below:

— *Part 1: General requirements;*

— *Part 2: System design, subsystems and components;*

— *Part 3: Acceptance (in preparation).*

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