

STN	Železnice Pevná jazdná dráha Časť 2: Navrhovanie systémov, subsystémov a súčastí	STN EN 16432-2 73 6325
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Railway applications - Ballastless track systems - Part 2: System design, subsystems and components

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 01/18

Obsahuje: EN 16432-2:2017

126110

Úrad pre normalizáciu, metrológiu a skúšobníctvo Slovenskej republiky, 2018
Podľa zákona č. 264/1999 Z. z. o technických požiadavkách na výrobky a o posudzovaní zhody a o zmene a doplnení niektorých zákonov v znení neskorších predpisov sa slovenská technická norma a časti slovenskej technickej normy môžu rozmnožovať alebo rozširovať len so súhlasom slovenského národného normalizačného orgánu.

EUROPEAN STANDARD

EN 16432-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2017

ICS 93.100

English Version

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of an identical text or by endorsement, at the latest by February 2018, and conflicting national standards shall be withdrawn at the latest by February 2018.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).*

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This part of the series EN 16432 covers the design of the ballastless track system, subsystems and components and is used in conjunction with the following parts:

- Part 1: General requirements;
- Part 3: Acceptance.

A ballastless track system may consist of, but is not limited to, subsystems and components shown in 5.1, Figure 1. Those items are designed in accordance with the requirements defined in this standard, or if applicable, other existing European standards.

NOTE Typical examples are rails defined in EN 13674-1, EN 13674-2 and EN 13674-3 or rail fastenings for ballastless track system defined in EN 13481-5.

1 Scope

This part of EN 16432 specifies system and subsystem design and component configuration for ballastless track system.

The system and subsystem design requirements are assigned from the general requirements of EN 16432-1. Where applicable, existing subsystem or component requirements from other standards are to be referenced.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

prEN 197-1:2014, *Cement — Part 1: Composition, specifications and conformity criteria for common cements*

EN 206:2013+A1:2016, *Concrete — Specification, performance, production and conformity*

EN 1097-6:2013, *Tests for mechanical and physical properties of aggregates — Part 6: Determination of particle density and water absorption*

EN 1992 series, *Eurocodes*

EN 1992-1-1:2004, *Eurocode 2: Design of concrete structures — Part 1-1: General rules and rules for buildings*

EN 1992-2:2005, *Eurocode 2 — Design of concrete structures — Concrete bridges — Design and detailing rules*

prEN 13043:2015, *Aggregates for bituminous mixtures and surface treatments for roads, airfields and other trafficked areas*

EN 13108-1:2016, *Bituminous mixtures — Material specifications — Part 1: Asphalt Concrete*

EN 13108-5:2016, *Bituminous mixtures — Material specifications — Part 5: Stone Mastic Asphalt*

EN 13230-1:2016, *Railway applications — Track — Concrete sleepers and bearers — Part 1: General requirements*

EN 13230-2:2016, *Railway applications — Track — Concrete sleepers and bearers — Part 2: Prestressed monoblock sleepers*

EN 13230-3:2016, *Railway applications — Track — Concrete sleepers and bearers — Part 3: Twin-block reinforced sleepers*

EN 13230-4:2016, *Railway applications — Track — Concrete sleepers and bearers — Part 4: Prestressed bearers for switches and crossings*

EN 13230-5:2016, *Railway applications — Track — Concrete sleepers and bearers — Part 5: Special elements*

prEN 13230-6:2015, *Railway applications — Track — Concrete sleepers and bearers — Part 6: Design*

EN 13242:2002+A1:2007, *Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction*

EN 13286-47:2012, *Unbound and hydraulically bound mixtures — Part 47: Test method for the determination of California bearing ratio, immediate bearing index and linear swelling*

EN 13481 (all parts), *Railway applications — Track — Performance requirements for fastening systems*

EN 13674-1:2011+A1:2017, *Railway applications — Track — Rail — Part 1: Vignole railway rails 46 kg/m and above*

EN 13674-2:2006+A1:2010, *Railway applications — Track — Rail — Part 2: Switch and crossing rails used in conjunction with Vignole railway rails 46 kg/m and above*

EN 13674-3:2006+A1:2010, *Railway applications — Track — Rail — Part 3: Check rails*

EN 13877-1:2013, *Concrete pavements — Part 1: Materials*

EN 13877-2:2013, *Concrete pavements — Part 2: Functional requirements for concrete pavements*

EN 13877-3:2004, *Concrete pavements — Part 3: Specifications for dowels to be used in concrete pavements*

EN 14227-1:2013, *Hydraulically bound mixtures — Specifications — Part 1: Cement bound granular mixtures*

EN 16432-1:2017, *Railway applications — Ballastless track systems — Part 1: General requirements*

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