

Irish Standard I.S. EN 16432-3:2021

Railway applications - Ballastless track systems - Part 3: Acceptance

© CEN 2021 No copying without NSAI permission except as permitted by copyright law.

#### I.S. EN 16432-3:2021

Incorporating amendments/corrigenda/National Annexes issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R.~xxx: Standard~Recommendation-recommendation~based~on~the~consensus~of~an~expert~panel~and~subject~to~public~consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.

This document is based on: Published:

EN 16432-3:2021 2021-11-03

This document was published ICS number:

under the authority of the NSAI and comes into effect on: 93.100

2021-11-22

NOTE: If blank see CEN/CENELEC cover page

NSAI T +353 1 807 3800 Sales:

 1 Swift Square,
 F +353 1 807 3838
 T +353 1 857 6730

 Northwood, Santry
 E standards@nsai.ie
 F +353 1 857 6729

 Dublin 9
 W NSAI.ie
 W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

This is a free page sample. Access the full version online.

# **National Foreword**

I.S. EN 16432-3:2021 is the adopted Irish version of the European Document EN 16432-3:2021, Railway applications - Ballastless track systems - Part 3: Acceptance

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

For relationships with other publications refer to the NSAI web store.

Compliance with this document does not of itself confer immunity from legal obligations.

In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

This is a free page sample. Access the full version online.

This page is intentionally left blank

**EUROPEAN STANDARD** 

EN 16432-3

NORME EUROPÉENNE

**EUROPÄISCHE NORM** 

November 2021

ICS 93.100

**English Version** 

# Railway applications - Ballastless track systems - Part 3: Acceptance

Applications ferroviaires - Systèmes de voies sans ballast - Partie 3 : Réception Bahnanwendungen - Feste Fahrbahn - Teil 3: Abnahme

This European Standard was approved by CEN on 13 September 2021.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION COMITÉ EUROPÉEN DE NORMALISATION EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

# EN 16432-3:2021 (E)

Con	Contents Pag		
Euro	European foreword3		
1	Scope	4	
2	Normative references	4	
3	Terms and definitions	4	
4	Symbols and abbreviations	5	
5	General	6	
<b>5.1</b>	Overview	6	
5.2	Validation of fitness for construction of a novel ballastless track system design	6	
<b>5.3</b>	Establishing the criteria for acceptance of work		
5.4	Integration in the assurance process/Works Acceptance Plan (WAP)	7	
6	Acceptance of works	8	
6.1	Track geometry and position		
6.2	Track stiffness		
6.3	Track stability		
6.4	Durability		
6.5	Drainage	11	
7	Acceptance of substructure and subsystems		
7.1	General	11	
7.2	Acceptance of substructures	11	
7.3	Acceptance of pavements		
7.4	Acceptance of intermediate layer		
7.5	Acceptance of prefabricated element (sleeper, block, slab, frame)		
7.6	Acceptance of fastening systems		
7.7	Acceptance of rails		
7.8	Specific measures for switches and crossings and rail expansion devices	19	
8	Acceptance of system specific installation methods	19	
8.1	Ballastless track system with continuously supported or embedded rails	19	
8.2	Ballastless track system with discrete rail seats on prefabricated element,		
	supported by a pavement	20	
8.3	Ballastless track system with discrete rail seats on prefabricated element,		
	independent from the surrounding concrete filling layer or pavement	21	
8.4	Ballastless track system with discrete rail seats on prefabricated element,		
<u> </u>	monolithically integrated in a pavement		
8.5	Ballastless track system with discrete rail seats on a concrete pavement	22	
Anne	Annex A (informative) Risk assessment of novelty in a proposed ballastless track system design		
Anne	ex B (informative) Material acceptance tests for intermediate layers	25	
	Bibliography		
ווטוע		20	

# **European foreword**

This document (EN 16432-3:2021) 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 May 2022, and conflicting national standards shall be withdrawn at the latest by May 2022.

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.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

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

# EN 16432-3:2021 (E)

# 1 Scope

This document specifies the implementation of ballastless track system designs and the criteria for the acceptance of works concerning construction of ballastless track systems. It does not include any criteria for inspecting, maintaining, repairing and replacing ballastless track systems during operation.

### 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 206, Concrete — Specification, performance, production and conformity

EN 12390-5, Testing hardened concrete — Part 5: Flexural strength of test specimens

EN 13231-1:2013, Railway applications — Track — Acceptance of works — Part 1: Works on ballasted track — Plain line, switches and crossings

EN 13848-2, Railway applications — Track — Track geometry quality — Part 2: Measuring systems — Track recording vehicles

EN 13848-6:2014+A1:2020, Railway applications — Track — Track geometry quality — Part 6: Characterisation of track geometry quality

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

EN 14587 (all parts), Railway applications — Infrastructure — Flash butt welding of new rails

EN 14730 (all parts), Railway applications — Track — Aluminothermic welding of rails

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

EN 16432-2:2017, Railway applications — Ballastless track systems — Part 2: System design, subsystems and components

#### 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at https://www.iso.org/obp
- IEC Electropedia: available at https://www.electropedia.org/

#### 3.1

#### tolerance

permissible deviation from reference or specified value

# 3.2

## relative track geometry

group of parameters defining the position of the rails, usually the following: track gauge, alignment, longitudinal level, twist and cross level



This is a free preview. Purchase the entire publication at the link below
---

**Product Page** 

- Dooking for additional Standards? Visit Intertek Inform Infostore
- Dearn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation