



SLOVENSKI STANDARD
SIST EN 13481-5:2012/kFprA1:2016
01-april-2016

Železniške naprave - Zgornji ustroj - Zahteve za izdelavo pritrdilnih sistemov - 5. del: Pritrdilni sistemi za tir s tirnico na površini plošče ali s tirnico, vgrajeno v ploščo

Railway applications - Track - Performance requirements for fastening systems - Part 5: Fastening systems for slab track with rail on the surface or rail embedded in a channel

Bahnanwendungen - Oberbau - Leistungsanforderungen für Schienenbefestigungssysteme - Teil 5: Befestigungssysteme für feste Fahrbahn mit aufgesetzten oder in Kanälen eingebetteten Schienen

Applications ferroviaires - Voie - Exigences de performance pour les systèmes de fixation - Partie 5: Systèmes de fixations des voies sans ballast ou voies avec rails enrobés

Ta slovenski standard je istoveten z: EN 13481-5:2012/FprA1:2016

ICS:

93.100 Gradnja železnic Construction of railways

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EUROPEAN STANDARD
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English Version

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for fastening systems - Part 5: Fastening systems for slab
track with rail on the surface or rail embedded in a
channel**

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aufgesetzten oder in Kanälen eingebetteten Schienen

This draft amendment is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 256.

This draft amendment A1, if approved, will modify the European Standard EN 13481-5:2012. If this draft becomes an amendment, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration.

This draft amendment was established by CEN 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

EN 13481-5:2012/FprA1:2016 (E)

Contents		Page
European foreword.....		3
1	Modification to the Scope	4
2	Modification to Clause 2, Normative references	4
3	Modification to 5.8, Cast-in fastening components	5
4	Modification to Annex ZA	5

European foreword

This document (EN 13481-5:2012/FprA1:2016) has been prepared by Technical Committee CEN/TC 256 "Railway applications", the secretariat of which is held by DIN.

This document is currently submitted to the Formal Vote.

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 2008/57/EC, see informative Annex ZA, which is an integral part of this document.

EN 13481-5:2012/FprA1:2016 (E)**1 Modification to the Scope**

Replace the scope with the following:

"This European Standard is applicable to fastening systems in Categories A–D as specified in EN 13481-1:2012, 3.1, for attaching rails to the uppermost surface of concrete or asphalt slabs and for embedded rails in non-ballasted tracks with maximum axle loads and minimum curve radii in accordance with Table 1.

Table 1 — Fastening category criteria

Category	Maximum design axle load kN	Minimum curve radius m
A	130	40
B	180	80
C	260	150
D	260	400

NOTE The maximum axle load for Categories A and B does not apply to maintenance vehicles.

The requirements apply to:

- fastening systems which act on the foot and/or web of the rail including direct fastening systems and indirect fastening systems;
- adhesive and mechanical fastening systems for embedded rail, but excluding rail cast into road pavements.

In track forms in which there are resiliently supported concrete elements with only one supporting element per rail (e.g. rail seat blocks or sleepers mounted in elastomeric “boots”) the concrete element and its resilient support are considered to be parts of the elastic fastening system. If the track form includes resiliently supported concrete elements with more than one supporting element per rail (e.g. floating slabs) those concrete elements and their resilient supports are considered to be parts of the slab and not of the fastening system.

This standard is only applicable to fastening systems for rail sections in EN 13674-1 (excluding 49E4) or EN 13674-4. It is not applicable to fastening systems for other rail sections, rigid fastening systems or special fastening systems used at bolted joints or glued joints.

This standard should only be used for type approval of complete fastening systems."

2 Modification to Clause 2, Normative references

Add the following:

"prEN 13146-10, *Railway applications — Track - Test methods for fastening systems — Part 10: Proof load test for pull-out resistance*".

3 Modification to 5.8, Cast-in fastening components

Replace the existing title and text in 5.8 with the following:

"5.8, Cast-in and glued-in fastening components

"Components of the fastening assembly which are cast into the concrete during manufacture of concrete elements or construction of the slab, or glued into the concrete elements or slab after the concrete has hardened, shall be subject to a vertical load test using the procedure described in prEN 13146-10. For each type of cast-in or glued-in insert, three concrete blocks, each incorporating cast-in components for one fastening assembly shall be selected for this test. One cast-in or glued-in component in each block shall be tested. The proof load to be applied may be specified by the designer of the slab track system. If no such requirement is specified the proof load applied in each test shall be 60 kN if there are two cast-in or glued-in components per rail seat, 40 kN if there are three cast-in or glued-in components per rail seat and 30 kN if there are four or more cast-in or glued in components per rail seat.

After the test there shall be no evidence of damage to the fastening component or the sleeper or supporting element that could result in a loss of integrity or durability of the system. Localized spalling of the concrete surface immediately adjacent to the fastening insert is not to be considered to be a reason to reject the system."

4 Modification to Annex ZA

Replace the existing text of Annex ZA with the following:

"

Annex ZA (informative)

Relationship between this European Standard and the Essential Requirements of EU Directive 2008/57/EC

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to provide a means of conforming to Essential Requirements of the Directive 2008/57/EC¹.

Once this standard is cited in the Official Journal of the European Union under that Directive and has been implemented as a national standard in at least one Member State, compliance with the clauses of this standard given in Table ZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding Essential Requirements of that Directive and associated EFTA regulations.

¹ This Directive 2008/57/EC adopted on 17th June 2008 is a recast of the previous Directives 96/48/EC 'Interoperability of the trans-European high-speed rail system' and 2001/16/EC 'Interoperability of the trans-European conventional rail system' and revisions thereof by 2004/50/EC 'Corrigendum to Directive 2004/50/EC of the European Parliament and of the Council of 29 April 2004 amending Council Directive 96/48/EC on the interoperability of the trans-European high-speed rail system and Directive 2001/16/EC of the European Parliament and of the Council on the interoperability of the trans-European conventional rail system'

Table ZA.1 – Correspondence between this European Standard, Commission Regulation (EU) No 1299/2014 of 18 November 2014 on the technical specifications for interoperability relating to the ‘infrastructure’ subsystem of the rail system in the European Union, and Directive 2008/57/EC

Clause(s)/ sub clause(s) of this European Standard	Chapter/§/annexes of the TSI	Corresponding text, articles/§/annexes of the Directive 2008/57/EC	Comments
<p>1 Scope</p> <p>5 Requirements</p> <p>5.1 Longitudinal rail restraint or longitudinal stiffness</p> <p>5.2.Assembly and pad stiffness</p> <p>5.3 Effect of repeated loading</p> <p>5.7 Effect of fastening system tolerances on track gauge</p>	<p>4. Description of the infrastructure domain</p> <p>4.2. Functional and technical specifications of the domain</p> <p>4.2.4. Track parameters</p> <p>4.2.4.1. Nominal track gauge</p> <p>4.2.6. Track resistance to applied loads</p> <p>4.2.6.1. Track resistance to vertical loads</p> <p>4.2.6.2. Longitudinal track resistance</p> <p>4.2.6.3. Lateral track resistance</p> <p>5. Interoperability constituents</p> <p>5.3. Constituents performances and specifications</p> <p>5.3.2. The rail fastening systems</p> <p>6. Assessment of conformity interoperability constituents and EC verification of the subsystems</p> <p>6.1. Interoperability Constituents</p> <p>6.1.3. Innovative solutions for interoperability constituents</p> <p>6.1.4. EC declaration of conformity for interoperability constituents</p> <p>6.1.4.3. EC declaration of conformity for rail fastening systems.</p> <p>Appendix A Assessment of interoperability constituents – Table 36 - Assessment of interoperability constituents for the EC declaration of conformity</p> <p>Appendix C Technical characteristics of track design and switches and crossings design</p> <p>Appendix C.1 Technical characteristics of track design - (b) Fastening system</p> <p>Appendix C.2 Technical characteristics of switches and crossings design - (b) Fastening system</p>	<p>Annex III, Essential requirements</p> <p>1. General requirements</p> <p>1.1. Safety</p> <p>1.1.1., 1.1.2., 1.1.3</p> <p>1.4. Environmental protection</p> <p>1.4.4, 1.4.5</p> <p>1.5. Technical compatibility</p>	<p>According to section 5.1 (1) of the merged TSI INF the requirements of section 5.3.2. are based on a traditional design of ballasted track with Vignole (flat bottom) rail on concrete or wooden sleepers</p> <p>According to section 5.1 of the merged TSI INF slab track or components of slab track cannot be considered as interoperability constituents.</p> <p>Slab track can be considered as part of the subsystem infrastructure if it responds to the requirements of section 4 and 6 of the merged TSI INF</p> <p>Not all existing or missing requirements of sections 4 and 6 of the merged TSI INF can be applicable on slab track. In this case the Commission shall be advised</p> <p>If slab track doesn't conform to sections 4 and 6 of the merged TSI INF, it shall be considered as an innovative solution according Art. 10 and § 4.1 (4) of the merged TSI INF</p>