



SLOVENSKI STANDARD
SIST EN 13481-2:2012/FprA1:2016
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**Železniške naprave - Zgornji ustroj - Zahteve za izdelavo pritrdilnih sistemov - 2.
del: Pritrdilni sistemi za betonske prage - Dopolnilo A1**

Railway applications - Track - Performance requirements for fastening systems - Part 2:
Fastening systems for concrete sleepers

Bahnanwendungen - Oberbau - Leistungsanforderungen für
Schienenbefestigungssysteme - Teil 2: Befestigungssysteme für Betonschwellen

Applications ferroviaires - Voie - Exigences de performance pour les systèmes de
fixation - Partie 2: Systèmes de fixation pour traverses en béton

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ICS:

93.100 Gradnja železnic Construction of railways

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English Version

**Railway applications - Track - Performance requirements
for fastening systems - Part 2: Fastening systems for
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Leistungsanforderungen für
Schienenbefestigungssysteme - Teil 2:
Befestigungssysteme für Betonschwellen

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 13481-2:2012. 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

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European foreword

This document (EN 13481-2:2012/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 Unique Acceptance Procedure.

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 13481-2:2012/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–E as specified in EN 13481-1:2012, 3.1, for use on concrete sleepers in ballasted track with maximum axle loads, and minimum curve radii as shown in 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
E	350	150

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;
- fastening systems with dynamic stiffness, k_{LFA} , not less than 50 MN/m;
- fastening systems for rail sections included in EN 13674-1 (excluding 49E4) or EN 13674-4.

This standard 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 5.5, Effect of repeated loading

Replace Table 3 with the following:

"

Table 3 — Test loads and positions

Fastening category	α degrees	X mm	Pv/cos α kN ^{a,b}	
			$50 \leq k_{LFA} < 200$ MN/m ^{c,d}	$k_{LFA} \geq 200$ MN/m ^c
A	38,6	25 ^e	55	55
B	38,6	25 ^e	62	65
C	33	15 ^e	75	83
D	26	15 ^e	70	76
E	40	75 ^e	100	108

^a The test loads apply only to rail sections included in EN 13674-1 (excluding 49E4) and EN 13674-4.
^b The test loads reflect the typical axle loads and curve radii in EN 13481-1:2012, 3.1.
^c Low frequency dynamic stiffness of assembly, measured at 5 Hz, in accordance with EN 13146-9.
^d For values of k_{LFA} less than 50 MN/m, the assembly may be tested using the test loads and positions set out in EN 13481-5:2012, Table 3.
^e For web supported rail the section shall be unmodified (i.e. $X = 0$).

"

4 Modification to 5.11, Cast-in and glued-in fastening components

Replace the existing text in 5.11 with the following:

"A vertical load test shall be performed using the procedure described in prEN 13146-10. Three sleepers shall be selected for the test and one cast-in or glued-in component in each sleeper shall be subjected to the test. The proof load applied in each test shall be 60 kN.

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."

EN 13481-2:2012/FprA1:2016 (E)**5 Modification to Annex A, Vertical load test for cast-in and glued-in fastening components**

Delete Annex A.

Rename Annex B into Annex A.

6 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'.