

Railway applications — Track — Performance requirements for fastening systems —

Part 2: Fastening systems for concrete sleepers

The European Standard EN 13481-2:2002, with the incorporation of amendment A1:2006, has the status of a British Standard

ICS 93.100

National foreword

This British Standard is the official English language version of EN 13481-2:2002, including amendment A1:2006.

The start and finish of text introduced or altered by amendment is indicated in the text by tags **[A1]** **[A1]**. Tags indicating changes to CEN text carry the number of the CEN amendment. For example, text altered by CEN amendment A1 is indicated in the text by **[A1]** **[A1]**.

The UK participation in its preparation was entrusted to Technical Committee RAE/2, Railway track components, which has the responsibility to:

- aid enquirers to understand the text;
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This British Standard, having been prepared under the direction of the Engineering Sector Policy and Strategy Committee, was published under the authority of the Standards Policy and Strategy Committee on 10 July 2002

Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 18, an inside back cover and a back cover.

The BSI copyright date displayed in this document indicates when the document was last issued.

Amendments issued since publication

Amd. No.	Date	Comments
16588	29 September 2006	See national foreword

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ISBN 0 580 40067 0

English version

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

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

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

This European Standard was approved by CEN on 6 March 2002.

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Management Centre: rue de Stassart, 36 B-1050 Brussels

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Foreword

This document EN 13481-2:2002 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 December 2002, and conflicting national standards shall be withdrawn at the latest by December 2002.

This document has been prepared under Mandates (M/024¹, M/275²) given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directives.

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

No existing European Standard is superseded.

This European Standard is one of the series EN 13481 “Railway applications — Track — Performance requirements for fastening systems” which consists of the following parts:

- Part 1: Definitions;
- Part 2: Fastening systems for concrete sleepers;
- Part 3: Fastening systems for wood sleepers;
- Part 4: Fastening systems for steel sleepers;
- Part 5: Fastening systems for slab track;
- Part 6: Special fastening systems for attenuation of vibration;
- Part 7: Special fastening systems for switches and crossings and check rails.

These are supported by the test methods in the series EN 13146 “Railway applications — Track — Test methods for fastening systems”.

The annexes A and B are normative.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

¹) Railway Equipment

²) Standardization in the field of Railway Equipment on the Interoperability of the Trans-European High-Speed Rail System

Foreword to amendment A1

This document (EN 13481-2:2002/A1:2006) has been prepared by Technical Committee CEN/TC 256 “Railway applications”, the secretariat of which is held by DIN.

This Amendment to the European Standard EN 13481-2:2002 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2007, and conflicting national standards shall be withdrawn at the latest by February 2007.

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Introduction

A requirement for longitudinal rail restraint is included to control rail creep and pull apart in the event of a broken rail.

Measurement of torsional resistance is included for use in assessing the risk of track buckling.

A class of high attenuation of dynamic loading is included for use when it is necessary to protect sleepers from vehicle induced impacts.

The laboratory test for the effect of repeated loading is the means of assessing potential long-term performance of the fastening in track.

The test for clamping force is only suitable for laboratory use.

1 Scope

This European Standard is applicable to fastening systems for use on concrete sleepers in ballasted track as follows:

- main lines having a radius of curvature greater than 150 m and subject to a maximum design axle load of 260 kN;
- light rail systems having a radius of curvature greater than 80 m and subject to a maximum design axle load of 130 kN.

The requirements apply to:

- direct fastening systems and systems which incorporate a baseplate;
- fastening systems for the rail sections in [A1](#) EN 13674-1 and EN 13674-4. [A1](#)

This standard is not applicable to fastening systems for other rail sections, rigid fastening systems or special fastening systems used at bolted joints.

This standard is for type approval of a complete fastening assembly only.

2 Normative references

This European Standard incorporates by dated or undated references, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publications referred to applies (including amendments).

[A1](#) EN 13146-1, *Railway applications — Track — Test methods for fastening systems - Part 1: Determination of longitudinal rail restraint*.

EN 13146-2, *Railway applications — Track — Test methods for fastening systems - Part 2: Determination of torsional resistance*. [A1](#)