

**Raudteelased rakendused. Rööbastee. Betoonliiprid ja -pöörmeprussid. Osa 1: Üldnõuded**

Railway applications - Track - Concrete sleepers and bearers - Part 1: General requirements

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 13230-1:2009 sisaldab Euroopa standardi EN 13230-1:2009 ingliskeelset teksti.</p> <p>Standard on kinnitatud Eesti Standardikeskuse 30.11.2009 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 10.06.2009.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 13230-1:2009 consists of the English text of the European standard EN 13230-1:2009.</p> <p>This standard is ratified with the order of Estonian Centre for Standardisation dated 30.11.2009 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p> <p>Date of Availability of the European standard text 10.06.2009.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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Võtmesõnad: betoon, Betoonliiprid, Betoonprussid, katsemeetodid, kvaliteedikontroll, pöörmeprussid, Raudtee tehnika, raudteetransport, rööbastee, üldnõuded,

Inglisekeelsed võtmesõnad: specifications, steels, testing, tests, tolerances, tolerances (measurement), tracks (materials handling equipment), turnouts, wear resistance,

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English Version

## Railway applications - Track - Concrete sleepers and bearers - Part 1: General requirements

Applications ferroviaires - Voie - Traverses et supports en  
béton - Partie 1 : Prescriptions générales

Bahnanwendungen - Oberbau - Gleis- und  
Weichenschwellen aus Beton - Teil 1: Allgemeine  
Anforderungen

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## Foreword

This document (EN 13230-1:2009) 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of an identical text or by endorsement, at the latest by December 2009, and conflicting national standards shall be withdrawn at the latest by December 2009.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 13230-1:2002.

This European Standard is one of the series EN 13230 "Railway applications – Track – Concrete sleepers and bearers", which consist of the following parts:

- Part 1: General requirements
- Part 2: Prestressed monoblock sleepers
- Part 3: Twin-block reinforced sleepers
- Part 4: Prestressed bearers for switches and crossings
- Part 5: Special elements

This EN is used as the technical basis for transaction between corresponding parties (purchaser – supplier).

Annexes A to G are informative; they can be used as normative requirements by completion of a contract, if agreed by the contractors.

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 EC Directive 2008/57/EC.

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

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

## Introduction

This part of the standard covers the general requirements for concrete sleepers and bearers and is used in conjunction with the following parts:

- Part 2: Prestressed monoblock sleepers
- Part 3: Twin-block reinforced sleepers
- Part 4: Prestressed concrete bearers for switches and crossings
- Part 5: Special elements

Concrete sleepers and bearers are safety critical components for railway applications. They are not covered by any other standards.

As safety critical components, an agreement is needed between purchaser and supplier to operate a factory Quality System.

This position has always been highlighted by resolutions from CEN/TC 256/SC 1 "Railway applications / Track".

## 1 Scope

This part of EN 13230 defines technical criteria and control procedures which have to be satisfied by the constituent materials and the finished concrete sleepers and bearers, i.e.: precast concrete sleepers, bearers for switches and crossings, and special elements for railway tracks.

The main requirement of concrete sleepers and bearers is the transmission of vertical, lateral and longitudinal loads from the rails to the ballast or other support. In use they are also exposed to frost damage and to moisture, which can result in detrimental chemical reactions within the sleeper.

In this standard mechanical tests are defined which provide assurance of the capability of sleepers or bearers to resist repetitive loading and provide sufficient durability. In addition controls are placed on manufacturing processes and tests to ensure that the concrete will not suffer degradation in service through chemical reaction and frost damage.

## 2 Normative references

The following referenced documents are indispensable for the application 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 197-1, *Cement – Part 1: Composition, specifications and conformity criteria for common cements*

EN 206-1, *Concrete – Part 1: Specification, performance, production and conformity*

EN 934-2, *Admixtures for concrete, mortar and grout – Part 2: Concrete admixtures – Definitions, requirements, conformity, marking and labelling*

EN 1008, *Mixing water for concrete – Specification for sampling, testing and assessing the suitability of water, including water recovered from processes in the concrete industry, as mixing water for concrete*

EN 10080, *Steel for the reinforcement of concrete – Weldable reinforcing steel – General*

prEN 10138 (all parts), *Prestressing steels*

EN 12620, *Aggregates for concrete*

EN 13146-5, *Railway applications – Track – Test methods for fastening systems – Part 5: Determination of electrical resistance*

EN 13230-2:2009, *Railway applications – Track – Concrete sleepers and bearers – Part 2: Prestressed monobloc sleepers*

EN 13230-3:2009, *Railway applications – Track – Concrete sleepers and bearers – Part 3: Twin-block reinforced sleepers*

EN 13230-4:2009, *Railway applications – Track – Concrete sleepers and bearers – Part 4: Prestressed bearers for switches and crossings*

EN 13481-2, *Railway applications – Track – Performance requirements for fastening systems – Part 2: Fastening systems for concrete sleepers*