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Railway applications - Track - Concrete sleepers and bearers - Part 4 : Prestressed bearers for switches and crossings

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 13230-4:2009 sisaldab Euroopa standardi EN 13230-4:2009 ingliskeelset teksti.

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English Version

**Railway applications - Track - Concrete sleepers and bearers -
Part 4: Prestressed bearers for switches and crossings**

Applications ferroviaires - Voie - Traverses et supports en
béton - Partie 4 : Supports précontraints pour appareil de
voie

Bahnwendungen - Oberbau - Gleis- und
Weichenschwellen aus Beton - Teil 4:
Spannbetonschwellen für Weichen und Kreuzungen

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Contents

Page

Foreword.....	3
Introduction.....	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 Special requirement	5
4.1 Design bending moments	5
4.2 Positioning of fastening components	5
4.3 Tolerances	5
4.3.1 General.....	5
4.3.2 Tolerance of planeness	6
4.3.3 Tolerances of fastening positioning	6
4.3.4 Tolerance of vertical deviation from straight.....	6
4.4 Distance from the end of the bearer to the nearest cast-in component	7
5 Product testing.....	8
5.1 General.....	8
5.2 Symbols	8
5.3 Test arrangements.....	8
5.4 Test procedures	9
5.4.1 Test loads	9
5.4.2 Static test.....	9
5.4.3 Fatigue test.....	11
5.5 Acceptance criteria.....	13
5.5.1 General.....	13
5.5.2 Static test.....	13
5.5.3 Fatigue test.....	13
5.6 Design approval tests	14
5.6.1 General.....	14
5.6.2 Bending moments evaluation.....	14
5.6.3 Concrete	14
5.6.4 Product inspection	14
5.7 Routine tests	14
5.7.1 General.....	14
5.7.2 Positive or negative bending moment evaluations for static test	14
5.7.3 Concrete	15
5.7.4 Product checking.....	15
6 Manufacturing	15
6.1 Manufacturing rules.....	15
6.2 Additional marking	15
7 Data to be supplied.....	15
7.1 Data supplied by the purchaser	15
7.2 Data supplied by the supplier.....	16
Annex A (normative) Detailed drawings of the test arrangements	17
A.1 Articulated support.....	17
A.2 Resilient pad.....	18
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2008/57/EC	19
Bibliography	22

Foreword

This document (EN 13230-4:2009) 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 13230-4:2002.

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 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 EN 13230 defines the specific requirements dedicated to prestressed bearers for switches and crossings.

These are additional requirements to EN 13230-1:2009 and are necessary to have a complete standard dealing with prestressed concrete bearers for switches and crossings.

The document specifies the test arrangements and the test procedures to implement and also the corresponding acceptance criteria just as the design approval test.

1 Scope

This part of EN 13230 defines additional technical criteria and control procedures as well as specific tolerance limits related to designing and manufacturing prestressed bearers for switches and crossings with a maximum length of 8,5 m.

Bearers longer than 8,5 m are considered as special elements and shall comply with EN 13230-5.

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

EN 13230-1:2009, *Railway applications – Track – Concrete sleepers and bearers – Part 1: General requirements*

EN 13230-5:2009, *Railway applications – Track – Concrete sleepers and bearers – Part 5: Special elements*

3 Terms and definitions

For the purposes of this part of EN 13230, the terms and definitions given in EN 13230-1:2009 and the following apply:

3.1

prestressed monoblock bearer

bearer manufactured using pre-tensioned or post-tensioned tendons

4 Special requirement

4.1 Design bending moments

The bearer shall be designed with positive and negative design bending moment capacities with the objective of keeping it straight.

4.2 Positioning of fastening components

An area of the concrete section shall be specified by the purchaser to be free from prestressing tendons for the location of fastening components.

If required by the purchaser, the design of the bearer shall provide for the repair or replacement of the embedded fastening components.

4.3 Tolerances

4.3.1 General

The maximum tolerances specified in EN 13230-1:2009, 6.1 apply to concrete bearers.

Measurement of tolerances shall be checked not before 48 h after transfer of prestressing forces.