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SIST EN 13230-5:2009

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EUROPEAN STANDARD
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EN 13230-5

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Supersedes EN 13230-5:2002

English Version

**Railway applications - Track - Concrete sleepers and bearers -
Part 5: Special elements**

Applications ferroviaires - Voie - Traverses et supports en
béton - Partie 5 : Eléments spéciaux

Bahnanwendungen - Oberbau - Gleis- und
Weichenschwellen aus Beton - Teil 5: Sonderformen

This European Standard was approved by CEN on 14 May 2009.

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This European Standard exists 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 Management Centre has the same status as the official versions.

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

Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (EN 13230-5:2009) 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of an identical text or by endorsement, at the latest by December 2009, and conflicting national standards shall be withdrawn at the latest by December 2009.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 13230-5:2002.

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

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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 relating to special elements.

These are additional requirements to the EN 13230-1 and are necessary to have a complete standard dealing with special elements.

These special elements are prestressed concrete special elements as special sleepers or special bearers and reinforced concrete special elements. They are generally used within specific domains of the track for ballastless tracks, for bridges, or with check rails for instance. This part of EN 13230 defines additional technical criteria and control procedures related to the design and manufacture of special elements and complements the requirements of EN 13230-2, EN 13230-3 and EN 13230-4.

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1 Scope

This part of EN 13230 defines additional technical criteria and control procedures related to the design and manufacture of special elements.

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

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

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3 Terms and definitions (standards.iteh.ai)

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

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3.1

special element

any individual concrete element supporting rails in the field of railway track construction, to which this standard is relevant, but which is not included in EN 13230-2, EN 13230-3 or EN 13230-4.

4 Requirements

A special element shall be defined by detailed drawings including tolerances.

All the tolerances specified in EN 13230-1:2009 which relate to the concrete elements, the rails, the fastening system and gauge shall be specified by the purchaser.

The purchaser shall specify the positive and negative design bending moments to be applied:

- a) at the rail seat section;
- b) at the centre section.

5 Product testing

EN 13230-1:2009, Clause 7 shall apply for any special element supporting rails for railway track applications.

Depending on the type of element and whether the concrete is prestressed or reinforced, the appropriate following clauses shall be for application:

EN 13230-5:2009 (E)

- a) either EN 13230-2:2009, Clause 4;
- b) or EN 13230-3:2009, Clause 4;
- c) or EN 13230-4:2009, Clause 5.

If possible, the special parts of the element shall be checked according to the requirements of the purchaser and the quality plan of the manufacturing unit.

If not, the manufacturer shall have a special agreement with the purchaser in order to define the testing method.

6 Manufacturing

Depending on the type of element and whether the concrete is prestressed or reinforced, the appropriate following clauses shall be used:

- a) either EN 13230-2:2009, Clause 5;
- b) or EN 13230-3:2009, Clause 7;
- c) or EN 13230-4:2009, Clause 6.

Any special requirement to be incorporated during the manufacturing process shall be defined by the purchaser.

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7 Data to be supplied

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The purchaser shall supply all the data detailed in EN 13230-1:2009 and either EN 13230-2:2009, EN 13230-3:2009 or EN 13230-4:2009, in addition to any further special requirement.

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Annex A

(informative)

Definition of special elements – Basic examples

A.1 Prestressed concrete special elements

A.1.1 Special sleepers

See EN 13230-2:2009

- a) with conductor rail;
- b) with check rail;
- c) for dual gauge;
- d) for level crossing;
- e) for expansion joints;
- f) for guard rail;
- g) for ballastless track.

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A.1.2 Special bearers

See EN 13230-4:2009

- a) for dual gauge;
- b) for expansion joints;
- c) for ballastless track;
- d) for hot-box detectors;
- e) for bridges;
- f) bearers for switches and crossings more than 8,5 m long.

A.2 Reinforced concrete special elements

A.2.1 Special sleepers

See EN 13230-3:2009

- a) with conductor rail;
- b) with check rail;