

**Raudteealased rakendused. Rööbastee. Pöörmed ja ristmed. Osa 2: Geomeetrilise konstruktsiooni nõuded
KONSOLIDEERITUD TEKST**

Railway applications - Track - Switches and crossings - Part 2: Requirements for geometric design CONSOLIDATED TEXT

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 13232-2:2003+A1:2011 sisaldab Euroopa standardi EN 13232-2:2003+A1:2011 ingliskeelset teksti.

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English Version

**Railway applications - Track - Switches and crossings - Part 2:
Requirements for geometric design**

Applications ferroviaires - Voie - Appareils de voie - Partie
2: Exigences de la conception géométrique

Bahnanwendungen - Oberbau - Weichen und Kreuzungen -
Teil 2: Anforderungen an den geometrischen Entwurf

This European Standard was approved by CEN on 7 February 2003 and includes Amendment 1 approved by CEN on 13 September 2011.

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Foreword

This document (EN 13232-2:2003+A1:2011) 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of an identical text or by endorsement, at the latest by April 2012, and conflicting national standards shall be withdrawn at the latest by April 2012.

A1 This document has been prepared under a mandate given to CEN/CENELEC/ETSI 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. **A1**

This document includes Amendment 1, approved by CEN on 2011-09-13.

This document supersedes EN 13232-2:2003.

The start and finish of text introduced or altered by amendment is indicated in the text by tags **A1** **A1**.

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This series of European Standards "*Railway Applications – Track – Switches and Crossings*" covers the design and quality of switches and crossings in flat bottomed rail. The list of parts is as follows:

- *Part 1 : Definitions*
- *Part 2 : Requirements for geometric design*
- *Part 3 : Requirements for wheel/rail interaction*
- *Part 4 : Actuation, locking and detection*
- *Part 5 : Switches*
- *Part 6 : Fixed common and obtuse crossings*
- *Part 7 : Crossings with movable parts*
- *Part 8 : Expansion devices*
- *Part 9 : Layouts*

Part 1 contains terminology used throughout all parts of this series. Parts 2 to 4 contain basic design guides and are applicable to all switch and crossing assemblies. Parts 5 to 8 deal with particular types of equipment, including their tolerances. Part 9 defines the functional and geometric dimensions and tolerances for layout assemblies. These use Parts 1 to 4 as a basis.

The following terms are used within to define the parties involved in using the European Standard as the technical basis for a transaction:

Customer	The Operator or User of the equipment, or the Purchaser of the equipment on the User's behalf.
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Supplier	The body responsible for the use of the European Standard in response to the Customer's requirements.
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1 Scope

This part of this European Standard covers the following subjects:

- geometric design principles for wheel guidance;
- definition of basic limits of supply;
- applied forces and their adequate support;
- tolerance levels.

These are illustrated herein by application to a turnout. The main switch and crossing components are represented in turnouts and the principles used in turnouts apply equally to more complex layouts.

2 Normative references

This European Standard incorporates by dated or undated reference, 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 publication referred to applies (including amendments).

EN 13232-1:2003, *Railway applications – Track – Switches and crossings – Part 1: Definitions*.

prEN 13232-3, *Railway applications – Track – Switches and crossings – Part 3: Requirements for wheel/rail interaction*.

prEN 13232-5, *Railway applications – Track – Switches and crossings – Part 5: Switches*.

prEN 13232-9, *Railway applications – Track – Switches and crossings – Part 9: Layouts*.

3 Principles of geometry and running dynamics

3.1 Introduction

Geometry is represented in the running plane by the running edges. For the purpose of determination of permissible speeds and for definition of the turnout, curvature is defined by the radius of the track centreline.

The guiding principles of curves are given in this standard as they apply to switches and crossings. Switches and crossings are normally designed without differential cant; particular requirements shall be specified.

In order to maintain safe and continuous support and guidance of wheels, certain rules of tangency are imposed. Speed and radius are then related to lateral acceleration. Cant deficiency is derived from this. Switches and crossings are characterised by changes in lateral acceleration, so rules for both steady and sudden changes between radii are included in this section.

Calculations and rules relate to vehicles with 2 axles or vehicles with 2-axle bogies. Vehicles with other than 2 axles may require special consideration and as such their configuration shall be provided by the Customer.

These rules are defined for steady-state design, i.e. without acceleration. Requirements of a dynamic nature shall be stated by the Customer.