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Railway applications - Track - Switches and crossings  
for Vignole rails - Part 5: Switches

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>See Eesti standard EVS-EN 13232-5:2023 sisaldab Euroopa standardi EN 13232-5:2023 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 11.10.2023.</p> <p>Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN 13232-5:2023 consists of the English text of the European standard EN 13232-5:2023.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 11.10.2023.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
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ICS 93.100

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EUROPEAN STANDARD

EN 13232-5

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2023

ICS 93.100

Supersedes EN 13232-5:2005+A1:2011

English Version

## Railway applications - Track - Switches and crossings for Vignole rails - Part 5: Switches

Applications ferroviaires - Voie - Appareils de voie  
pour rails Vignole - Partie 5 : Aiguillages

Bahnanwendungen - Oberbau - Weichen und  
Kreuzungen für Vignolschienen - Teil 5:  
Zungenvorrichtungen

This European Standard was approved by CEN on 23 October 2022.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.



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CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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## European foreword

This document (EN 13232-5:2023) 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 2024, and conflicting national standards shall be withdrawn at the latest by April 2024.

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

This document supersedes EN 13232-5:2005+A1:2011.

This series of standards “*Railway applications – Track – Switches and crossings for Vignole rails*” 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 moveable 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. These use Parts 1 to 4 as a basis. Part 9 defines the geometric and non-geometric acceptance criteria for the inspection of layouts.

The changes introduced in this document bring further clarity to the wording of the requirements and a number of the figures, the structure of the document is largely unchanged from the previous revision.

This document has been prepared under a standardisation request addressed to [the relevant ESO] by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, see informative Annex ZA, which is an integral part of this document.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

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## **Introduction**

This document concerns switches, whose purpose is to cause a vehicle to transfer from one track to the other track of a turnout, either in the facing or trailing direction.

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## 1 Scope

This document:

- establishes a working definition for switches and their constituent parts and identify the main types;
- specifies the minimum requirements for the manufacture of the switches and/or constituent parts;
- specifies codes of practice for inspection and manufacturing tolerances of both full and half sets of switches and their constituent parts;
- establishes the limits and scope of supply;
- lists the methods by which switches and their parts should be identified and traced;
- lists the different and varying ways by which switches can be described using the following parameters:
  - geometry of the switches;
  - types of construction;
  - performance requirements;
  - design criteria;
  - tolerances and inspection.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 13232-1:2023, *Railway applications – Track – Switches and crossings for Vignole rails – Part 1: Definitions*

EN 13232-2:2023, *Railway applications – Track – Switches and crossings for Vignole rails – Part 2: Requirements for geometric design*

EN 13232-3:2023, *Railway applications – Track – Switches and crossings for Vignole rails – Part 3: Requirements for wheel/rail interaction*

EN 13232-4:2023, *Railway applications – Track – Switches and crossings for Vignole rails – Part 4: Actuation, locking and detection*

EN 13674-1:2011+A1:2017, *Railway applications – Track – Rail - Part 1: Vignole railway rails 46 kg/m and above*

EN 13674-2:2019, *Railway applications – Track – Rail - Part 2: Switch and crossing rails used in conjunction with Vignole railway rails 46 kg/m and above*

EN 13674-3:2006+A1:2010, *Railway applications – Track – Rail - Part 3: Check rails*

EN 13674-4:2019, *Railway applications – Track – Rail - Part 4: Vignole railway rails from 27 kg/m to, but excluding 46 kg/m*

### 3 Terms and definitions

For the purpose of this document the terms and definitions given in EN 13232-1:2023 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <https://www.iso.org/obp>

— IEC Electropedia: available at <http://www.electropedia.org/>

#### 3.1 Construction

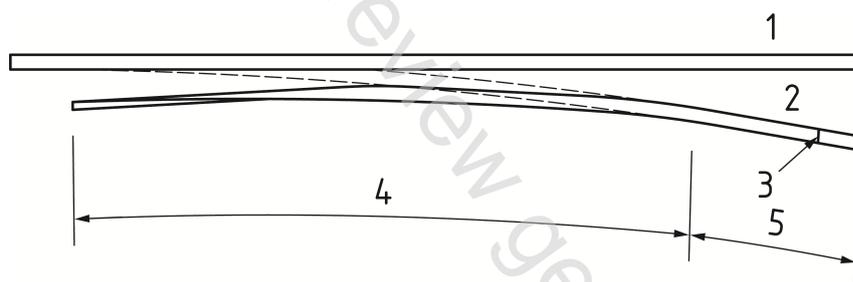
##### 3.1.1

##### **flexible switch**

switch rail, the toe of which is moved by flexing about a fixed heel, where the flexing part is made of one profile only

Note 1 to entry: The switch rail can be either standard rail profile or switch rail profile. If a transition from a switch rail profile to a standard rail profile is required, this takes place in the fixed part of the switch rail. In case of a weld, the weld is also located in the fixed part of the switch rail

Note 2 to entry: see Figure 1.



##### **Key**

- |               |            |
|---------------|------------|
| 1 Stock rail  | 4 Moveable |
| 2 Switch rail | 5 Fixed    |
| 3 Weld        |            |

**Figure 1 — Half set of flexible switches**

##### 3.1.2

##### **spring rail switch**

switch rail, the toe of which is moved by flexing about a fixed heel, where the flexing part is made of two different profiles

Note 1 to entry: The transition and the weld between one profile and the other takes place in the movable part of the switch rail.

Note 2 to entry: see Figure 2.