



SLOVENSKI STANDARD
SIST EN 13232-5:2023

01-december-2023

Železniške naprave - Zgornji ustroj proge - Kretnice in križišča za Vignolove tirnice
- 5. del: Kretniška menjala

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

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

Applications ferroviaires - Infrastructure - Appareils de voie - Partie 5: Aiguillages

Ta slovenski standard je istoveten z: EN 13232-5:2023

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ICS:

45.080

Tračnice in železniški deli

Rails and railway
components

SIST EN 13232-5:2023

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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.

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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-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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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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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.

EN 13232-5:2023 (E)

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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EN 13232-5:2023 (E)**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

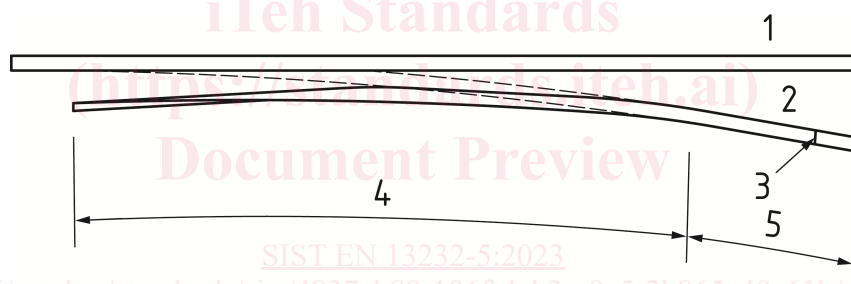
3.1.1

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.



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Key

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

Figure 1 — Half set of flexible switches

3.1.2

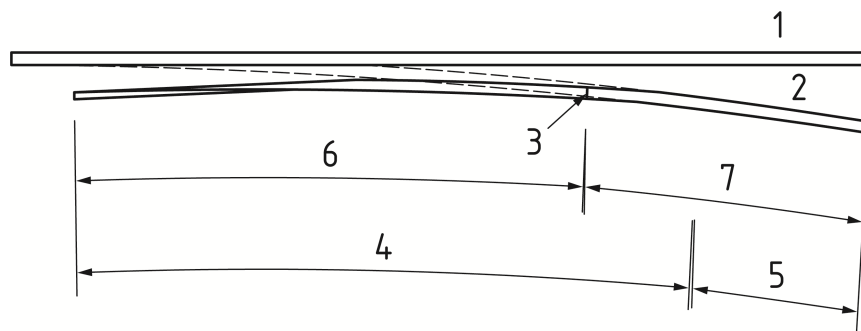
spring rail switch

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.

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**Key**

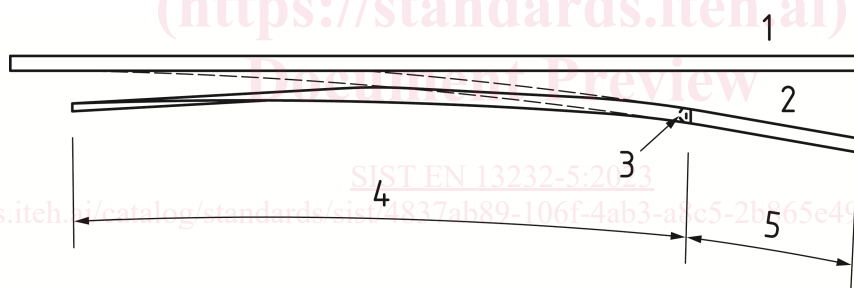
1	Stock rail	5	Fixed
2	Switch rail	6	Switch rail profile
3	Weld	7	Standard rail profile
4	Moveable		

Figure 2 — Half set of spring switches**3.1.3****loose-heel switch**

rigid switch rail which pivots about its heel

Note 1 to entry: see Figure 3

Note 2 to entry: a loose heel switch can sometimes be known as a pivot-articulated switch.

**Key**

1	Stock rail	4	Moveable
2	Switch rail	5	Fixed
3	Pivot		

Figure 3 — Half set of loose heel switches**3.2 Rail joints****3.2.1****switch rail joint**

joint at the heel end of the switch rail

3.2.2**stock rail joint**

joint at the switch heel end of the stock rail

3.2.3

stock front joint

joint at the switch toe end of the stock rail

3.3 Handing and sets of switches

3.3.1

set of switches

arrangement of two half sets of switches, one right hand, the other left hand, usually including fittings

Note 1 to entry: For an observer in the centre of the track facing the switch heel from the switch toe: the switches can be diverging right hand (Figure 4), diverging left hand (Figure 5) or equal split or symmetrical (Figure 6).

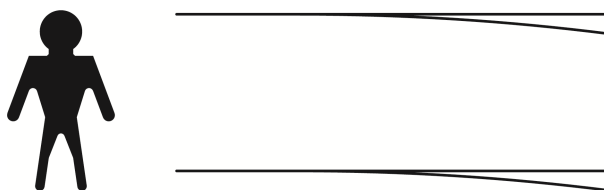


Figure 4 — Right hand



Figure 5 — Left hand

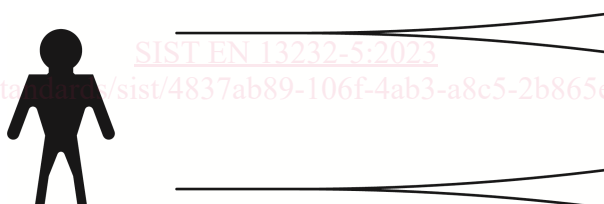


Figure 6 — Symmetrical