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ILNAS-EN 13232-2:2023

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

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

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

10/2023



National Foreword

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

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

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

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

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Contents

European foreword	4
1 Scope	6
2 Normative references	6
3 Terms and definitions.....	7
4 Design process.....	7
4.1 General process.....	7
4.2 Design step details	8
4.3 Practical use of the design process	8
5 General design requirements	8
5.1 Reference points	8
5.2 General tangency rules.....	10
5.3 Inputs	10
6 Geometry design rules (step 1)	11
6.1 Introduction	11
6.2 Speed relationships	12
6.3 Effects of changes in curvature.....	13
6.3.1 Introduction	13
6.3.2 Change of lateral acceleration	13
6.3.3 Types and locations of transitions	13
6.3.4 Rules for steady changes in curvature.....	13
6.3.5 Rules for step changes in curvature (virtual transitions)	13
6.3.6 Rules for special cases	13
6.3.7 Switches and crossings on curves	13
6.4 Output.....	14
7 Main constructional design (step 2).....	14
7.1 Introduction	14
7.2 Inputs	15
7.3 General requirements.....	15
7.4 Specific requirements.....	16
7.5 Structural requirements.....	18
7.6 Other requirements.....	18
7.7 Actuation, locking and detection design.....	18
7.8 Output – Main construction documents	18
7.8.1 General	18
7.8.2 Geometry	18
7.8.3 Guidance	19
7.8.4 Actuation.....	19
7.8.5 Constructional	19
7.8.6 Information lists	19
8 Detailed component design (step 3)	19
8.1 Switches	19
8.2 Crossings.....	19
8.3 Expansion devices	20
8.4 Other components.....	20
8.5 Output – Assembly documents	20
8.5.1 Main assembly documents.....	20
8.5.2 Optional documents	21
9 Tolerances.....	22
9.1 Individual tolerances	22
9.2 Accumulation of tolerances	22
9.3 Acceptance basis	22

Annex A (informative) Design process.....	23
Bibliography.....	25

European foreword

This document (EN 13232-2:2023) 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 13232-2:2003+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 inspection of layouts.

The changes introduced in this document set the geometric parameters for switch and crossing design in the context of the design process, providing more detail to the user of the standard. A number of figures have been also updated to improve clarity.

This document has been prepared under a Standardization Request given to CEN by the European Commission and the European Free Trade Association.

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.

1 Scope

This document:

- establishes the design process for switches and crossings (S&C), and the use of the other parts of this standard;
- specifies the geometric design principles for wheel guidance;
- establishes the basic limits of supply;
- establishes the applied forces and their adequate support;
- specifies 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

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 13232-3:2023, *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 13232-5:2023, *Railway applications – Track – Switches and crossings for Vignole rails – Part 5: Switches*

EN 13232-6:2023, *Railway applications – Track – Switches and crossings for Vignole rails – Part 6: Fixed common and obtuse crossings*

EN 13232-7:2023, *Railway applications – Track – Switches and crossings for Vignole rails – Part 7: Crossings with moveable parts*

EN 13232-9:2023, *Railway applications – Track – Switches and crossings for Vignole rails – Part 9: Layouts*

EN 15273-3:2013+A1:2016, *Railway applications - Gauges - Part 3: Structure gauges*