BS EN 13232-3:2023

BSI Standards Publication

Railway applications — Track — Switches and crossings for Vignole rails

Part 3: Requirements for wheel/rail interaction

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National foreword

This British Standard is the UK implementation of EN 13232-3:2023. It supersedes BS EN 13232-3:2003+A1:2011, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee RAE/2/-/9, Railway applications - Switches & Crossings - Performance & Acceptance.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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English Version

Railway applications - Track - Switches and crossings for Vignole rails - Part 3: Requirements for wheel/rail interaction

Applications ferroviaires - Voie - Appareils de voie pour rails Vignole - Partie 3 : Exigences pour l'interaction roue/rail

Bahnanwendungen - Oberbau - Weichen und Kreuzungen für Vignolschienen - Teil 3: Anforderungen an das Zusammenspiel Rad/Schiene

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EUROPÄISCHES KOMITEE FÜR NORMUNG

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Contents

European foreword

This document (EN 13232-3:2023) 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of an identical text or by endorsement, at the latest by April 2024, and conflicting national standards shall be withdrawn at the latest by April 2024.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 13232-3:2003+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. Part 9 defines the geometric and non-geometric acceptance criteria for layout inspection.

This document introduces more detailed requirements for wheel/rail contact geometry as well as introducing functional and safety dimensions required for the design of switches and crossings. A number of figures have also been updated to improve clarity.

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.

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1 Scope

This document defines the main wheel/track interaction criteria to be taken into account during the geometrical design of railway switches and crossings (S&C) layouts.

It specifies:

— characterization of wheel and track dimensions;

— geometric design principles for wheel guidance;

— design principles for wheel load transfer;

— whether movable crossings are needed.

These are illustrated by their application to turnout components:

— switches;

— crossings;

— check rails,

but the principles apply equally to more complex units. There are also simplified definitions of the safety and functional dimensions, which can be used in conjunction with the general principles as the basis for more in-depth assessment.

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 13715:2020, *Railway applications - Wheelsets and bogies - Wheels - Tread profile*

EN 15313:2016, *Railway applications - In-service wheelset operation requirements - In-service and off-vehicle wheelset maintenance*

EN 15273-1:2013+A1:2016, *Railway applications - Gauges - Part 1: General - Common rules for infrastructure and rolling stock*

EN 15273-2:2013+A1:2016, *Railway applications - Gauges - Part 2: Rolling stock gauge*

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