

TECHNICAL REPORT

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## Railway applications - Gauges - Part 5: Background, explanation and worked examples

Applications ferroviaires - Gabarits - Partie 5 :  
Contexte, explication et exemples

Bahnanwendungen - Begrenzungslinien - Teil 5:  
Hintergrund, Erläuterung und praktizierte Beispiele

This Technical Report was approved by CEN on 18 August 2025. It has been drawn up by the Technical Committee CEN/TC 256.

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## European foreword

This document (CEN/TR 15273-5:2025) has been prepared by Technical Committee CEN/TC 256 “Railway applications”, the secretariat of which is held by DIN.

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.

The EN 15273 series, *Railway applications — Gauges*, consists of the following parts:

- EN 15273-1:2025, *General — Common rules for rolling stock and infrastructure*, which gives the general explanations of gauging and defines the sharing of the space between rolling stock and infrastructure;
- EN 15273-2:2025, *Rolling stock*, which gives the rules for dimensioning vehicles;
- EN 15273-3:2025, *Infrastructure*, which gives the rules for positioning the infrastructure;
- EN 15273-4:2025, *Catalogue of defined gauges*, which includes a non-exhaustive list of reference profiles and parameters to be used by infrastructure and rolling stock; and
- CEN/TR 15273-5:2025, *Background, explanation and worked examples* (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.

## Introduction

The aim of this document is to define the rules for the calculation and verification of the dimensions of rolling stock and infrastructure from a gauging perspective.

This document gives gauging processes taking into account the relative movements between rolling stock and infrastructure and the necessary margins or clearances.

This part of the series EN 15273 is intended to be used in conjunction with the following parts:

- *Part 1: General — Common rules for rolling stock and infrastructure;*
- *Part 2: Rolling stock;*
- *Part 3: Infrastructure;*
- *Part 4: Catalogue of defined gauges.*

## 1 Scope

This document presents the background of some gauging methods, gives calculation examples for both rolling stock and infrastructure based on gauging methods from EN 15273-2:2025 and EN 15273-3:2025, and also demonstrates some relevant formulae.

## 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 15273-1:2025, *Railway applications — Gauges — Part 1: General common rules for rolling stock and infrastructure*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 15273-1:2025 apply.

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

- ISO Online browsing platform: available at <https://www.iso.org/obp/>
- IEC Electropedia: available at <https://www.electropedia.org>

## 4 Symbols and abbreviations

For the purposes of this document, the symbols and abbreviations given in EN 15273-1:2025 apply.

## 5 General

This document has been prepared by Technical Committee CEN/TC 256 “Railway applications” for better reading and understanding of EN 15273. All examples contained in this document are for guidance and are not contractual.

This document aims at providing background information and examples to complement the EN 15273 series. This includes infrastructure implementation, the tracks implementation and the sections for rolling stock in order to ensure the service safety. These rolling stock are designed according to the different types of existing or future configuration.

This document explains the general philosophy of the methods used and of the history of the evolution of the rules. Therefore, the reader is able to adapt the philosophy or formulae to their specific cases.