

STN	Železnice Priechodné prierezy a obrysy Časť 3: Infraštruktúra	STN EN 15273-3 28 0320
------------	--	--

Railway applications - Gauges - Part 3: Infrastructure

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 01/26

Obsahuje: EN 15273-3:2025

Oznámením tejto normy sa ruší
STN EN 15273-3+A1 (28 0320) z augusta 2017

141655

Úrad pre normalizáciu, metrológiu a skúšobníctvo Slovenskej republiky, 2026
Slovenská technická norma a technická normalizačná informácia je chránená zákonom č. 60/2018 Z. z. o technickej normalizácii
v znení neskorších predpisov.

EUROPEAN STANDARD

EN 15273-3

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2025

ICS 45.020; 45.060.01

Supersedes EN 15273-3:2013+A1:2016

English Version

Railway applications - Gauges - Part 3: InfrastructureApplications ferroviaires - Gabarits - Partie 3 :
InfrastructureBahnanwendungen - Begrenzungslinien - Teil 3:
Infrastruktur

This European Standard was approved by CEN on 16 June 2025.

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.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

EN 15273-3:2025 (E)

Contents	Page
European foreword.....	5
Introduction	7
1 Scope	8
2 Normative references	8
3 Terms and definitions	9
4 Symbols and abbreviations	9
5 Defined gauging	9
5.1 General	9
5.1.1 Introduction	9
5.1.2 Gauging methods	9
5.1.3 Infrastructure gauge types	10
5.1.4 Uniform gauge	10
5.1.5 Choice of gauge	10
5.2 General information on all the gauge calculation methods	11
5.2.1 The reference profile and its associated rules	11
5.2.2 Lateral gauge widening	11
5.2.3 Vertical adjustment	14
5.2.4 Additional allowances	20
5.3 Kinematic gauging method	20
5.3.1 General	20
5.3.2 Infrastructure gauge	20
5.4 Dynamic gauging method	25
5.4.1 General	25
5.4.2 Infrastructure gauge	25
5.5 Static gauging method	28
5.5.1 General	28
5.5.2 Infrastructure gauge	28
5.6 Distance between track centres	31
5.6.1 Introduction	31
5.6.2 Parameters to take into account when determining the distance between track centres	33
5.6.3 Determination of the distance between track centres	35
5.7 Elements of variable layout	39
5.7.1 Introduction	39
5.7.2 Layout transition	40
5.7.3 Running on switches and crossings	45
5.8 Determination of the free passage gauge of the pantograph	47
5.8.1 General	47
5.8.2 Mechanical pantograph gauge for the kinematic gauging method	50
5.8.3 Electrical pantograph gauge for the kinematic gauging method	54
5.8.4 Mechanical pantograph gauge for the dynamic gauging method	55
5.8.5 Electrical pantograph gauge for the dynamic gauging method	56
5.9 Overhead contact line	56
5.10 Items intended to be in close proximity	56

5.10.1	Rules for installation of platform edges	56
5.10.2	Track miscellaneous track equipment	62
5.11	Guide for determination of a new gauge from an existing infrastructure	63
5.12	Tilting trains.....	63
5.13	Ferries.....	63
5.14	Verification and maintenance of the gauge.....	63
5.14.1	Infrastructure gauges.....	63
5.14.2	Distance between track centres	64
6	Absolute and comparative gauging.....	64
6.1	Absolute gauging.....	64
6.1.1	General	64
6.1.2	Infrastructure data requirements.....	65
6.1.3	Infrastructure tolerances	67
6.1.4	Infrastructure calculations	69
6.1.5	Application rules.....	71
6.2	Comparative gauging.....	72
6.3	Absolute gauges.....	73
6.4	Compatibility information.....	73
6.5	Items intended to be in close proximity.....	73
6.5.1	General	73
6.5.2	Control, command and signalling equipment	74
6.5.3	Active check rails	75
6.5.4	Planking of level crossings.....	75
6.5.5	Conductor rails	75
6.5.6	Rail brakes	75
6.6	Platforms	75
6.7	Pantograph Gauging	75
6.7.1	General	75
6.7.2	Pantograph gauges.....	76
6.7.3	Benchmark pantograph sway values	76
6.7.4	Pantograph gauging using pantograph swept envelopes	76
6.8	Switch and crossings	77
6.9	Tilting trains.....	77
6.10	Infrastructure measurement	77
6.10.1	Measurement data.....	77
6.10.2	Survey equipment	77
6.10.3	Measurement accuracy <i>Tim</i>	78
6.10.4	Survey quality	78
6.11	Gauging management principles	78
6.12	Fixed installations mounted in proximity of the tracks	79
6.13	Temporary structures.....	80
Annex A (informative)	Recommended values for calculation of the allowances in defined and absolute gauging.....	81
Annex B (informative)	Defined gauging – lower parts.....	84
B.1	General	84
B.2	Lower part of GI2 – Generally applicable.....	84
B.3	Lower part of GI1 – Tracks for rail brake equipment.....	85
B.4	Lower parts for “rolling” roads – GI3.....	88

EN 15273-3:2025 (E)

Annex C (informative) Determination of reference vehicle characteristics for defined gauging	90
C.1 Introduction	90
C.2 Methodology	90
C.3 Calculation example	91
Annex D (informative) Gauge maintenance guideline for defined gauging	97
D.1 Introduction	97
D.2 Choice of gauge	97
D.3 Installation rules	97
D.4 Managing and checking of structures	98
D.5 Effect of track maintenance	99
D.6 Personnel training	99
Annex E (informative) Calculation example for determination of the gauge in a turnout for defined gauging	100
E.1 Introduction	100
E.2 Methodology	101
E.3 Gauge widening	102
E.4 The quasi-static effect	103
E.5 Gauge width at a turnout	103
Annex F (informative) Tilting trains	106
F.1 General	106
F.2 Transition curve	107
F.3 Degraded modes	107
Annex G (informative) Uniform gauge	108
G.1 General	108
G.2 GU1	108
G.3 GU2	110
G.4 GUC	112
Annex H (informative) A-deviations	114
Bibliography	115

European foreword

This document (EN 15273-3:2025) 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 2026, and conflicting national standards shall be withdrawn at the latest by April 2026.

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 is one of the series EN 15273, *Railway applications — Gauges* as listed below:

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

This document supersedes EN 15273-3:2013+A1:2016.

In comparison with the previous edition, the following technical modifications have been made:

- the series was fully restructured, from three parts to five parts;
- Clause 3 and Clause 4 now refer to EN 15273-1:2025 where all terms and symbols are defined;
- reorganization of clauses from previous editions;
- creation of a new Clause 6 for absolute and comparative gauging process;
- all worked examples moved into the new CEN/TR 15273-5:2025;
- Table B.1 moved into the informative Annex A;
- all reference profiles and basics data from normative Annex C and normative Annex D moved into the new EN 15273-4:2025;
- normative Annex F moved into informative Annex C;
- informative Annex H moved into informative Annex D;
- creation of a new informative Annex F about tilting trains.

EN 15273-3:2025 (E)

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

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.

Introduction

The aim of this series EN 15273 is to define the rules for the calculation and verification of the dimensions of rolling stock and infrastructure from a gauging perspective.

This series EN 15273 sets out gauging processes taking into account the relative movements between rolling stock and infrastructure as well as the necessary margins or clearances.

EN 15273-3:2025 covers requirements for infrastructure and is used in conjunction with the following parts:

- *Part 1: General — Common rules for rolling stock and infrastructure;*
- *Part 2: Rolling stock;*
- *Part 4: Catalogue of defined gauges;*
- *Part 5: Background, explanation and worked examples.*

EN 15273-3:2025 (E)**1 Scope**

This document:

- lists the formulae and the associated rules needed to calculate the infrastructure gauge;
- lists the various phenomena to be taken into account to determine the infrastructure gauge;
- defines a methodology that may be used to calculate the various profiles from these phenomena;
- lists the rules to determine the distance between the track centres;
- lists the rules to be complied with when building the platforms;
- lists the rules to determine the pantograph gauge;
- provides recommendations for the various profiles needed to install, verify and maintain infrastructure;

and is applicable for various track gauges.

This document is applicable to heavy rail networks using various track gauges. Other vehicles and networks are outside the scope of this document, but the rules may be applied to them with some adjustments and agreement of the share of responsibility between rolling stock and infrastructure.

This document is not applicable to the gauges “S” and “T” for track gauge 1 520 mm.

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 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 13232-8:2023, *Railway applications — Track — Switches and crossings for Vignole rails — Part 8: Expansion devices*

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

EN 15273-1:2025, *Railway applications — Gauges — Part 1: General – Common rules for Infrastructure and rolling stock*

EN 15273-2:2025, *Railway Applications — Gauges — Part 2: Rolling stock*

EN 15273-4:2025, *Railway Applications — Gauges — Part 4: Catalogue of defined gauges*

EN 50119:2020, *Railway applications — Fixed installations - Electric traction overhead contact lines*

EN 50367:2020¹, *Railway applications — Fixed installations and rolling stock — Criteria to achieve technical compatibility between pantographs and overhead contact line*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN

¹ Document impacted by EN 50367:2020/A1:2022 and EN 50367:2020/A2:2025.