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Railway applications - Gauges - Part 2: Rolling Stock

Bahnanwendungen - Begrenzungslinien - Teil 2: Fahrzeuge

Applications ferroviaires - Gabarits - Partie 2 : Matériel roulant

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roulant

Bahnwendungen - Lichtraum - Teil 2: Fahrzeuge

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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prEN 15273-2:2023 (E)**European foreword**

This document (prEN 15273-2:2023) has been prepared by Technical Committee CEN/TC 256 “Railway applications”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 15273-2:2013+A1:2016.

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

- prEN 15273-1: *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;
- prEN 15273-2: *Rolling stock* gives the rules for dimensioning vehicles;
- prEN 15273-3: *Infrastructure* gives the rules for positioning the infrastructure;
- prEN 15273-4: *Catalogue of defined gauges* includes a non-exhaustive list of reference profiles and parameters to be used by infrastructure and rolling stock;
- prCEN/TR 15273-5: *Background, explanation and worked examples*.

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 prEN 15273-1:2023 where all terms and symbols are defined;
- modification of the whole Clause 5;
- reordering of all specifics rules of defined kinematic gauge inside the Annexes A to P by moving to the normative Annex A;
- addition of new rules in Annex A about the wheel-zone;
- restructured A.3.13 and A.3.16 into two Annexes, normative Annex B for passive tilting vehicle and informative Annex C for active tilting vehicle;
- addition of a new normative Annex D about the graphical method use for Defined kinematic gauge;
- for defined kinematic gauge, removal of all reference profile inside the prEN 15273-2:2023 replace in Normative Annex E by tables with the links with prEN 15273-4:2023 to define the reference profile, basic data and lateral projections;
- for defined static gauge, removal of all reference profile inside the prEN 15273-2:2023 replace in Normative Annex G by tables with the links with prEN 15273-4:2023 to define the reference profile, basic data and lateral projections;
- regrouping all particular rules for German, Belgian and pantograph gauges in normative Annex E;

- reordering all specific rules of defined static gauge inside the Annexes A to P by moving to the normative Annex F;
- for all defined gauges (static, kinematic and dynamic), removal of all formulae for calculating specific lateral reductions and replacement by generic formulae in each normative Annexes A, F and K;
- removal of specific Annex K defined static gauges OSJD;
- removal of normative Annex Q Vehicle widening depending on the available spaces of the infrastructure;
- content of normative Annex R Static and kinematic gauges: list of documents for a vehicle gauge conformance certification moved to normative Annex N list of documents for rolling stock gauge assessment applicable for defined kinematic, static and dynamic gauges;
- addition of absolute gauging process and comparative process in normative Annex M.

This document has been prepared under a Standardization Request given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s) / Regulation(s).

For relationship with EU Directive(s) / Regulation(s), see informative Annex ZA, which is an integral part of this document.

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prEN 15273-2:2023 (E)**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 describes gauging processes taking into account the relative movements between rolling stock and infrastructure as well as the necessary margins or clearances.

This part of the series prEN 15273 covers rolling stock gauges and is used in conjunction with the following parts:

- *Part 1: General-common rules for Rolling stock and Infrastructure;*
- *Part 3; Infrastructure;*
- *Part 4: Catalogue of defined gauges;*
- *Part 5: Background, explanation and worked examples.*

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1 Scope

This document is applicable to new vehicle designs, to modifications to existing vehicles and for checking existing vehicles to be used on another route or network.

This document contains:

- the rules for rolling stock for all defined gauges;
- the swept envelope calculation process used for defined dynamic gauges, absolute and comparative process;
- the list of documents required to assess vehicle conformity to this standard.

This document is applicable to heavy rail vehicles using various track gauges. Other vehicles are outside the scope of this document, but the rules may be applied to them.

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 14363:2016+A2:2022, *Railway applications - Testing and Simulation for the acceptance of running characteristics of railway vehicles - Running Behaviour and stationary tests*

prEN 15273-1:2023, *Railway applications - Gauges - Part 1: General-Common rules for Rolling stock and Infrastructure*

prEN 15273-3:2023, *Railway applications - Gauges - Part 3: Infrastructure*

prEN 15273-4:2023, *Railway Applications - Gauges - Part 4: Catalogue of defined gauges*

prCEN/TR 15273-5:2023, *Railway applications - Gauges - Part 5: Background, explanation and worked examples*

EN 15663:2017+A1:2018, *Railway applications - Vehicle reference masses*

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

EN 50215:2009, *Railway applications - Rolling stock - Testing of rolling stock on completion of construction and before entry into service*

EN 50367:2020, *Railway applications - Fixed installations and rolling stock - Criteria to achieve technical compatibility between pantographs and overhead contact line¹*

¹ Document impacted by A1:2022.