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EUROPEAN STANDARD

EN 15273-2:2013+A1

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2016

ICS 45.020; 45.060.01

Supersedes EN 15273-2:2013

English Version

Railway applications - Gauges - Part 2: Rolling stock gauge

Applications ferroviaires - Gabarits - Partie 2 : Gabarit
du matériel roulant

Bahnanwendungen - Begrenzungslinien - Teil 2:
Fahrzeugbegrenzungslinien

This European Standard was approved by CEN on 15 December 2012 and includes Amendment 1 approved by CEN on 25 July 2016.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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European Foreword

This document (EN 15273-2:2013+A1:2016) 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of an identical text or by endorsement, at the latest by May 2017, and conflicting national standards shall be withdrawn at the latest by May 2017.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document includes amendment 1 adopted by CEN on 25 July 2016.

This document replaces A1 EN 15273-2:2013 A1.

The beginning and end of added or modified text is indicated by the following references: A1 A1

A1 This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports the essential requirements of EU Directive 2008/57/EC. A1

For the relationship with Directive 2008/57/EC, see informative Annex ZA, which is an integral part of this document.

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Common rules for infrastructure and rolling stock according to EN 15273-1 are applicable.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

EN 15273-2:2013+A1:2016 (E)**Introduction**

EN 15273 comprises three parts, namely:

- EN 15273-1 that covers general definitions and the rules applicable to rolling stock and structure gauges;
- EN 15273-2 that gives the rules for calculating the rolling stock gauges and the associated rules for the various profiles;
- EN 15273-3 that gives the definition for the structure gauges. It explains the parameters concerned and gives a possible methodology for determining the structure gauges and the distances between centres of the tracks.

The gauges included in these standards have been developed as part of their application on European railways. Other networks such as regional, local, urban and suburban networks may apply the gauge regulations defined in this standard. They may be required to make use of specific methodologies, particularly where:

- specific rolling stock is used (for example: underground trains, trams, etc. operating on two rails);
- the range of curve radii is different;
- others, etc.

The catalogue included in this European Standard only includes a selection of gauges and is not exhaustive. Each network is free to define the gauges in accordance with their own needs.

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1 Scope

This document is applicable to the authorities involved in all types of railway operation.

This European Standard is applicable to new vehicle designs, to modifications and to the checking of the gauge for vehicles already in use.

The application of the rules of this European Standard makes it possible to determine the maximum dimensions of vehicles related to the structures.

This European Standard contains:

- the associated rules for all the gauges for rolling stock;
- the requirements for composing the technical gauge report to submit to the Acceptance Authority in order to confirm vehicle conformity to this standard;
- the requirements for maintaining the vehicle characteristics influencing gauging throughout its operational life.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 12299, *Railway applications — Ride comfort for passengers — Measurement and evaluation*

EN 14363:2005, *Railway applications — Testing for the acceptance of running characteristics of railway vehicles — Testing of running behaviour and stationary tests*

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

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

EN 15663 +A1:2016, *Railway applications — Definition of vehicle reference masses*

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3 Terms and definitions

For the purposes of this document, the following terms and definitions specific to part 2 apply.

3.1 empty vehicle

vehicle load state: definition according to EN 15663

3.2 [.....]₀

value to be considered only when it is positive; negative values are regarded as being equal to zero

3.3 |...|

mathematical absolute value

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4 Symbols

For the purposes of this document, the symbols and abbreviations given in Table 1 are applicable.

Table 1 — Symbols and abbreviations (drawn from part 1)

Symbol	Designation	Unit
a	Distance between end wheelsets of vehicles not fitted with bogies or between bogie centres	m
A	Coefficient of displacement	
b	Semi-width or distance parallel to the running surface, relative to the track centreline or of the vehicle	m
b_1	Semi-width of the primary suspension springs	m
b_2	Semi-width of the secondary suspension springs	m
b_G	Semi-spacing of side bearers	m
b_{lac0}	Standard width of the gap between the platform and the step	m
b_{lac}	Horizontal gap between the platform and step	m
$b_{obstacle}$	Distance parallel to the running surface between the structure and the track centreline	m
b_q	Semi-width of the platform installation	m
b_{q0}	Semi-width of the standard platform installation	m
b_{q0a}	Semi-width of the standard platform installation on the outside of a curve	m
b_{q0i}	Semi-width of the standard platform installation on the inside of a curve	m
b_w	Semi-width of the pantograph head	m
C	Roll centre	
CR	Reference profile	
d	Dimension over wheel flanges	m
dg_a	Geometric overthrow of the vehicle on the outside of the curve	m
dg_{amax}	Maximum geometric overthrow allowed on the outside of the curve	m
dg_{av}	Vertical geometrical offset for parts of the vehicle positioned outboard of the wheelsets	m
dg_i	Geometric overthrow of the vehicle on the inside of the curve	m