SLOVENSKI STANDARD
SIST EN 15663:2017+A2:2025

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Železniške naprave - Določitev mase železniškega vozila (vključno z dopolnilom A2)

Railway applications - Vehicle reference masses

Bahnanwendungen - Fahrzeugreferenzmassen

Applications ferroviaires - Masses de référence des véhicules

Ta slovenski standard je istoveten z: **EN 15663:2017+A2:2024**

ICS:

45.060.01	Železniška vozila na splošno	Railway rolling stock in general

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English Version

Railway applications - Vehicle reference masses

Applications ferroviaires - Masses de référence des véhicules

Bahnanwendungen - Fahrzeugreferenzmassen

This European Standard was approved by CEN on 25 September 2018 and includes Amendment 2 approved by CEN on 18 November 2024.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN 15663:2017+A2:2024) 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of an identical text or by endorsement, at the latest by June 2025, and conflicting national standards shall be withdrawn at the latest by June 2025.

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 includes Amendment 1 approved by CEN on 25 September 2018.

This document includes Amendment 2 approved by CEN on 18 November 2024.

This document supersedes ⟦A2⟩ EN 15663:2017+A1:2018 ⟨A2⟧.

The start and finish of text introduced or altered by amendment is indicated in the text by tags ⟦A1⟩ ⟨A1⟧.

The start and finish of text introduced or altered by amendment is indicated in the text by tags ⟦A2⟩ ⟨A2⟧.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

⟦A2⟩ *deleted text* ⟨A2⟧

This European Standard aims to support the TSIs and European Standards for the calculation of vehicle masses.

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

To define the design, testing and operation of vehicles in general and their main constituent parts, it is necessary to clearly specify the associated states of loading. This European Standard provides such a set of vehicle reference masses and describes how each is derived.

1 Scope

This European Standard defines a set of reference masses for specifying the requirements for the design, testing, acceptance, marking, delivery and operation of rail vehicles.

The reference masses defined in this document are as follows:

— dead mass;

— design mass in working order;

— design mass under normal payload;

— design mass under exceptional payload;

— operational mass in working order;

— operational mass under normal payload.

These reference masses are defined with respect to the whole vehicle, but they can also apply to a specific system or component.

The specification of values for tolerances applicable to reference masses is not in the scope of this standard. Tolerances can be required by an application standard.

Additional loadings due to environmental factors, for example snow and retained or absorbed rainwater, are not in the scope of this European Standard.

2 Normative references

[A2] 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 17343:2023, *Railway applications — General terms and definitions* [A2]

3 Terms, definitions and abbreviations

3.1 Terms and definitions

[A2] For the purposes of this document, the terms and definition defined in EN 17343:2023 and the following apply. [A2]

[A1] ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp [A1]

3.1.1
mass increment
quantity added to or subtracted from the vehicle mass

Note 1 to entry: Examples are payload, staff, consumables and wear allowances.

3.1.2
payload
mass increment for the load carried by the vehicle (passengers, luggage or cargo)

Note 1 to entry: Typically a load from which revenue is derived.

3.1.3
luggage compartment
closed area, for the carriage of luggage and goods, which is not intended for the transport of passengers

3.1.4
luggage area
low level location or unit in a passenger saloon or vestibule provided to store luggage

Note 1 to entry: Overhead luggage racks are not regarded as luggage areas.

3.1.5
passenger area
area inside the vehicle dedicated for transporting passengers

Note 1 to entry: Catering areas are not regarded as passenger areas.

3.1.6
catering area
area set aside for passengers for the purchase or consumption of catering services (e.g. buffet, bar or bistro)

3.1.7
standing area
unobstructed part of either a passenger area or a catering area which can be used by standing passengers (e.g. vestibules, aisles, stairways)

3.1.8
normal seat
permanent seat in a passenger or catering area

3.1.9
tip up seat
folding seat fixed to a wall or partition for temporary use

3.1.10
wear allowance
quantity of mass that is assumed to be lost in service due to abrasion and mechanical wear

Note 1 to entry: The main sources of wear to be accounted for are from wheels and brake friction materials.

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3.1.11
dead mass
mass of the vehicle in the 'as built' condition without consumables and without staff

Note 1 to entry: 4.3 gives a detailed definition.

3.1.12
working order
condition in which the vehicle is available for service, including staff and an amount of consumables, but without any payload

Note 1 to entry The amount of consumables depends on the vehicle condition (design condition or operational condition) as given in Table 6.

Note 2 to entry This state is sometimes described as unladen or tare. Nevertheless, the use of the expression "working order" is encouraged to harmonize wording.

3.1.13
normal payload
typical payload seen on a regular basis

Note 1 to entry The normal payload depends on the vehicle condition (design or operational condition) as given in Table 4.

Note 2 to entry 4.4 gives a detailed definition.

Note 3 to entry For freight vehicles, the payload is always taken as the maximum payload as specified in the loading table of the vehicle.

3.1.14
exceptional payload
maximum possible payload that can be carried and that will be experienced only under exceptional conditions

Note 1 to entry: The exceptional payload is only defined for the design condition.

Note 2 to entry: 4.4 gives a detailed definition.,

3.1.15
design condition
theoretical state for analysis and calculation

3.1.16
operational condition
assumed average state when in service

3.1.17
special purpose mass
mass, specified in an application standard based on the reference mass definitions in accordance with this document

Note 1 to entry: In accordance with this definition, a reference mass used directly by an application standard is not considered as a special purpose mass.

Note 2 to entry: 4.6 gives detailed information about the application mass definitions. A2

3.2 Abbreviations

For the purposes of this document, the following two and three letter abbreviations are derived as follows:

The first letter denotes either an increment or a total vehicle mass:

M the total vehicle Mass

P mass increment (Payload, consumables, staff, wear allowance)

The second letter denotes the type of payload or reference mass:

U dead mass i.e. Underlying mass

C Consumables, staff and wear allowance

V in working order (Vide)

N Normal

X eXceptional

The third letter denotes the condition that is required (see 4.1):

D Design condition

O Operational condition

Where the third letter is omitted, the mass or payload applies to all conditions.

[A2] The unused letters of the alphabet are available to denote a special purpose mass or payload condition that is defined by an application standard (see 4.6). [A2]

Table 1 — Reference mass abbreviations

Abbreviation	Term
MU	Dead mass
MVD	Design mass in working order
MND	Design mass under normal payload
MXD	Design mass under exceptional payload
MVO	Operational mass in working order
MNO	Operational mass under normal payload

Table 2 — Payload and mass increment abbreviations

Abbreviation	Term
PCD	Design consumables
PND	Normal design payload
PXD	Exceptional payload
PCO	Operational consumables
PNO	Normal operational payload

[A2] If the default values for standing areas in passenger and catering areas set out in 7.2 and 7.3 are not used, the abbreviations shall be extended to indicate the particular values used in kg/m^2 (e.g. MXD160) [A2]. Where a separate catering area load is used this shall also be included, preceded by a "/" (e.g. MXD240/160).