



BSI Standards Publication

## Railway applications — Vehicle reference masses

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## National foreword

This British Standard is the UK implementation of EN 15663:2017. It supersedes BS EN 15663:2009, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee RAE/3/-/11, Railway Applications - Structural requirements and Welding.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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EUROPEAN STANDARD

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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 11 May 2017.

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## European foreword

This document (EN 15663:2017) 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of an identical text or by endorsement, at the latest by January 2018, and conflicting national standards shall be withdrawn at the latest by January 2018.

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

This document supersedes EN 15663:2009.

The main changes with respect to the previous edition are listed below:

- a) general editorial reordering of clauses and text;
- b) new subclause 3.2 for abbreviations;
- c) new numbering for vehicle categories in 4.2;
- d) new subclause 4.6 for defining additional or alternative mass definitions and payload states in application standards;
- e) new requirements for standing areas in gangways between vehicles in Clause 6;
- f) new treatment of wheelchair loadings in Clauses 6 and 7;
- g) permitted variations in standing passenger loadings redefined;
- h) new recommendations for the determination of the centre of gravity in 7.1;
- i) new Annex B for application of EN 15663 reference masses in other European Standards;
- j) new Annex C for application of EN 15663:2009 reference masses in TSI.

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

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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey 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

There are no normative references in this document.

## 3 Terms, definitions and abbreviations

### 3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

#### 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