

Railway applications - Line categories for managing the interface between load limits of vehicles and infrastructure CONSOLIDATED TEXT

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English Version

Railway applications - Line categories for managing the interface between load limits of vehicles and infrastructure

Applications ferroviaires - Catégories de ligne pour la
gestion des interfaces entre limites de charges des
véhicules et de l'infrastructure

Bahnanwendungen - Streckenklassen zur Bewerkstellung
der Schnittstelle zwischen Lastgrenzen der Fahrzeuge und
Infrastruktur

This European Standard was approved by CEN on 7 February 2008 and includes Amendment 1 approved by CEN on 20 August 2012.

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Foreword

This document (EN 15528:2008+A1:2012) 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of an identical text or by endorsement, at the latest by April 2013, and conflicting national standards shall be withdrawn at the latest by April 2013.

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 approved by CEN on 20 August 2012.

This document will supersede EN 15528:2008.

The start and finish of text introduced or altered by amendment is indicated in the text by tags **A1** **A1**.

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

For relationship with EU Directive 2008/57/EC, see informative Annex ZA, which is an integral part of this document. **A1**

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Introduction

Existing European railway infrastructure consists of elements designed for different purposes. Most civil engineering railway infrastructure was built before the introduction of CR-INS-TSI and Eurocodes for the design of structures.

This European Standard defines a line classification system for infrastructure managers and railway undertakings to manage the interface between load limits for railway vehicles and payload limits for freight wagons and the vertical load carrying capacity of a line.

The line classification system takes into account parameters such as:

- axle load (P),
- mass per unit length (p),
- geometrical aspects relating to the spacing of axles,
- speed

and provides a transparent method for determining whether the vertical loading characteristics of vehicles are compatible with the load carrying capacity of lines on the network.

1 Scope

This European Standard describes methods of classification of existing and new railway lines and the categorisation of vehicles. The standard specifies the technical requirements for ensuring the compatibility of the interface between vehicle and infrastructure. The standard is suitable for use on freight, passenger and mixed traffic lines and contains requirements relevant to:

- classification of the vertical load carrying capacity of railway infrastructure;
- design of railway vehicles;
- determination of payload limits of freight wagons.

A summary of the classification of infrastructure and categorisation of vehicles is given in Annex B.

The assessment of the vertical load carrying capacity of civil engineering structures, track, sub-grade and earthworks by the use of the load models defined in Annex A permits the classification of infrastructure into line categories.

This European Standard identifies on which lines vehicles are compatible to the infrastructure under normal operation conditions without further checks regarding vertical load effects.

The methodology described in this European Standard is not valid for high speed rail traffic. Tilting traffic and the working of rail mounted plant and cranes etc. are also outside the scope of this European Standard. This European Standard does not cover the system used in Great Britain, where all lines and vehicles are to be classified in accordance with the RA (Route Availability) System. A guide to the equivalent categories in accordance with this European Standard is given in Annex C.

This European Standard does not cover requirements relating to the maximum total mass or maximum length of a train.

The requirements of this European Standard do not replace regulations relating to e.g. dynamic wheel/rail contact force limits, vehicle ride considerations, vehicle structural design limitations, etc.

2 Normative references

[A1] 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. **[A1]**

EN 1991-2:2003, *Eurocode 1: Actions on structures — Part 2: Traffic loads on bridges*

prEN 15663, *Railway applications — Vehicle Mass definition*

3 Terms and definitions

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

3.1

classification of infrastructure

statement of the load carrying capacity of infrastructure on a line by allocation of a line category