



BSI Standards Publication

Railway applications - Marking on railway vehicles

Part 1: Freight wagons

National foreword

This British Standard is the UK implementation of EN 15877-1:2012+A1:2018. It supersedes BS EN 15877-1:2012, which is withdrawn.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to CEN text carry the number of the CEN amendment. For example, text altered by CEN amendment A1 is indicated by A1 A1.

The UK participation in its preparation was entrusted to Technical Committee RAE/3/-/9, Railway Applications - Wagons (Tank/Freight).

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When speeds in km/h require unit conversion for use in the UK, users are advised to use equivalent values rounded to the nearest whole number. The use of absolute values for converted units should be avoided in these cases. Please refer to the table below for agreed conversion figures:

INS, RST and ENE speed conversions	
km/h	mph
5	3
10	5
20	10
30	20
80	50
160	100
190	120

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Published by BSI Standards Limited 2018

ISBN 978 0 580 95568 6

ICS 45.060.20

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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 July 2012.

Amendments/corrigenda issued since publication

Date	Text affected
31 December 2018	Implementation of CEN amendment A1:2018

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 15877-1:2012+A1

December 2018

ICS 45.060.01

Supersedes EN 15877-1:2012

English Version

**Railway applications - Marking on railway vehicles - Part
1: Freight wagons**

Applications ferroviaires - Inscriptions pour véhicules
ferroviaires - Partie 1: Wagons pour le fret

Bahnanwendungen - Kennzeichnung von
Schienenfahrzeugen - Teil 1: Güterwagen

This European Standard was approved by CEN on 9 March 2012 and includes Amendment 1 approved by CEN on 15 July 2018.

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

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European foreword

This document (EN 15877-1:2012+A1:2018) 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 2019, and conflicting national standards shall be withdrawn at the latest by June 2019.

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 2018-07-15.

This document supersedes EN 15877-1:2012.

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 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

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

This European standard describes standardised markings for use on railway vehicles. These markings are used to provide various items of information relating to the characteristics and intended use of vehicles in a clear and concise manner. Among those markings are safety signs used to alert equipment operators to hazards that may be encountered in the use or maintenance of the vehicles.

The standard consists of two parts:

- *Part 1: Freight wagons;*
- *Part 2: External Markings on Coaches, Motive Power Units, Locomotives and On Track Machines.*

The provisions of this Part 1 of the standard cover:

- the markings required by the Conventional Rail Rolling Stock Freight Wagon TSI which mandates the minimum set of markings relevant to its design and operation to be carried by any wagon which is certified as TSI and/or UTP compliant;
- the markings, in addition to those which are TSI/UTP mandatory, which are relevant to its design and operation as required by industry.

In addition to the markings shown in this standard, there might be other industrial markings and text applied to a freight wagon, e.g. instructions and warnings concerning the use of equipment. Such additional markings are not in contravention of this standard provided they do not interfere with or affect the markings in the standard.

The standard is applicable to all railway freight wagons operating within the European Union, the European Free Trade Association Member States and states which are member of OTIF (Intergovernmental Organisation for International Carriage by Rail) and it satisfies the legal requirements within these institutions.

The standard is consistent with:



- the Technical Specification for Interoperability Subsystem: Rolling Stock Scope: Freight Wagons as published in the Official Journal L 104, 12.4.2013, p.1, and its amendments;
- the Technical Specification for Interoperability Subsystem: Operation and Traffic Management published in the Official Journal L 165, 30.06.2015, p.1;
- the Convention Concerning International Carriage by Rail (COTIF) as amended by the Vilnius Protocol in force from 1.7.2006, applicable from 01.01.2011

It therefore supports the essential requirements of:

- Directive 2008/57/EC on the interoperability of the rail system within the Community;
- COTIF UTP GEN-A: General provisions – Essential requirements (A 94-01A/1.2009) in force since 1st August 2009.

It is intended to be used by all parties concerned with the marking of railway vehicles.

1 Scope

This European Standard identifies the information required to be marked on freight wagons, or parts of freight wagons, relating to their technical, operational and maintenance characteristics. It defines the characteristics of these markings, the requirements pertaining to their presentation, their shape and position on a vehicle and their meaning. Some markings are accompanied with a note(s) where appropriate.

Tank barrel manufacturers' design criteria, test and product specification plates have not been considered in this European Standard as they are specified in EN 12561-1:2011, *Railway applications — Tank wagons — Part 1: Identification plates for tank wagons for the carriage of dangerous goods*.

Dangerous Goods markings have not been considered in this European Standard where fully specified in RID (dimensions, colour, location and form). Where markings are not fully specified in RID they are included in this standard

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 12561-1, *Railway applications — Tank wagons — Part 1: Identification plates for tank wagons for the carriage of dangerous goods*

EN 15528, *Railway applications — Line categories for managing the interface between load limits of vehicles and infrastructure*

prEN 15877-2, *Railway applications — Marking on railway vehicles — Part 2: External markings on coaches, motives power units, locomotives and on track machines*

ISO 3864-1, *Graphical symbols — Safety colours and safety signs — Part 1: Design principles for safety signs and safety markings*

CIE 015-2004, *Colorimetry* — 3rd edition

CIE 054.2-2001, *Retroreflection: Definition and Measurement*

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

buffer stroke

measured distance difference between an uncompressed and a fully compressed buffer

3.1.2

decal

a picture or design printed on specially prepared plastic sheeting for the purpose of adherence to a freight wagon

3.1.3

luminance contrast, k

luminance of colour L_1 divided by the luminance of colour L_2 where L_1 is greater than L_2

$$k = \frac{L_1}{L_2}$$

[SOURCE: IEC 60050-845:1987, 845-04-69]"

3.1.4

luminance factor, β

ratio of the luminance of the surface element in a given direction to that of a perfect reflecting or transmitting diffuser identically illuminated

3.1.5

marking

lettering or symbols applied to a freight wagon by means of decals, hand painting or by another agreed method, with the purpose of providing information concerning the wagon

3.1.6

paint

liquid mixture, usually of a solid pigment in a liquid medium such as oil or water

3.1.7

railway vehicle

vehicle suitable for circulation on its own wheels on railway lines with or without traction

3.1.8

stencil

template for the required lettering

3.1.9

tare

weight of a railway vehicle without fuel or load

Note 1 to entry: To follow common practice, "weight" is used throughout this standard as kilogramme or tonne.

3.1.10

vehicle

vehicle is the smallest part in a train (a single vehicle)

Note 1 to entry: It features an individual body shell lying on its own sets of bogies or wheels or sharing them with adjacent vehicles

3.1.11

wagon

railway vehicle without traction designed to carry freight or goods

3.2 Abbreviations

Term	Definition
AC	Alternate current
ATP	Automatic Train Protection

CER	Community of European Railways and Infrastructures Companies.
CIE	International Commission on Illumination, Vienna, Austria. http://www.cie.co.at/cie/
COTIF	Convention concerning International Carriage by Rail (COTIF) of 9 May 1980 in the version of the Protocol of Modification of 3 June 1999
CR	Conventional Rail System
DC	Direct current
EFTA	European Free Trade Association
ERA	European Railway Agency
EU	European Union
EVN	European Vehicle Number - Article 32 of the 2008/57/EC
OSJD	Warsaw based Organisation for Collaboration between Railways
OTIF	Intergovernmental Organisation for International Carriage by Rail
PPV/PPW	OSJD Rules for International Operation of Wagons and Coaches of 01/01/1956 updated 01/01/1997
RAL	Colour standardisation system of the German Institute for Quality Assurance and Certification
RID	RID means the Regulations concerning the International Carriage of Dangerous Goods (Appendix C to COTIF 1999) (RID is also Annex to EU Council Directive 2008/68/EC)
RIV	"RIV" means the agreements between Railway Undertakings governing the exchange and use of wagons between railway undertakings (version 2000)
RST	Rolling stock
RU	Railway Undertaking
TSI	Technical Specifications for Interoperability, the specifications by which each subsystem or part subsystem is covered in order to meet the essential requirements and ensure the interoperability of the trans-European rail system.
TEN	Trans European Network
UIC	International Union of Railways
UIP	International Union of Private Wagon Owners.
UIRR	International Union of Combined Road-Rail Transport Companies.
UNIFE	Union of the European Railway Industries.
UITP	International Association of Public Transport.
UTP	Uniform Technical Prescriptions according to Appendix F (APTU) of COTIF1999
VKM	Vehicle Keeper Marking
WAG TSI	Freight Wagons TSI

4 Markings

4.1 General principles

4.1.1 The markings and the content of information are as given in 4.5.

4.1.2 A marking shall be located on the wagon at a position easily visible by staff standing at ground level and presented in a way clearly understandable to persons concerned. If the marking is intended to be read by a person standing at ground level, it should not be located at a level higher than 2 000 mm above the rail surface¹⁾. The visibility shall also be ensured if the marking needs to be read from a

¹⁾ For the assessment of the location criteria, the ground level should not to be lower than 200 mm below the rail surface; in accordance with anthropometric data, the eye level of the reading person should not to be less than 1500 mm