

EN 16116-2:2021



NBN EN 16116-2:2021



**Railway applications - Design requirements for steps, handrails
and associated access for staff - Part 2: Freight wagons**

Valid from 23-07-2021

Replaces NBN EN 16116-2:2013

ICS: 45.060.20

EUROPEAN STANDARD

EN 16116-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

July 2021

ICS 45.060.20

Supersedes EN 16116-2:2013

English Version

Railway applications - Design requirements for steps, handrails and associated access for staff - Part 2: Freight wagons

Applications ferroviaires - Exigences pour la
construction des marchepieds, mains courantes et
accès destinés au personnel - Partie 2 : Wagons

Bahnwendungen - Konstruktionsanforderungen an
Tritte, Handgriffe und entsprechende Zugänge für das
Personal - Teil 2: Güterwagen

This European Standard was approved by CEN on 14 June 2021.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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, Turkey and United Kingdom.



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

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

Contents

Page

European foreword	3
Introduction	4
1 Scope.....	5
2 Normative references.....	5
3 Terms and definitions	6
4 Steps and handrails.....	7
4.1 General requirements	7
4.2 Steps.....	7
4.2.1 General.....	7
4.2.2 Shunter's step.....	8
4.2.3 Other steps	11
4.3 Handrails.....	11
4.3.1 General.....	11
4.3.2 Shunter handrail	11
4.3.3 Other handrails.....	12
5 Shunter's stand	13
5.1 General.....	13
5.2 Shunter's stand at wagons with end wall boards	14
5.3 Shunter's stand with tilting handrail.....	15
5.4 Shunter's stand for special case flat wagons with fixed handrails.....	17
5.5 Steps for gangways and end platforms	17
6 Reserved spaces	17
6.1 General.....	17
6.2 Space for shunting staff operation.....	17
6.3 Clearances for tail light.....	19
Annex A (informative) Gangways and other access solutions	21
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of Directive (EU) 2016/797 aimed to be covered	26
Bibliography.....	27

European foreword

This document (EN 16116-2:2021) 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 2022, and conflicting national standards shall be withdrawn at the latest by January 2022.

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 supersedes EN 16116-2:2013.

This document is part of the series EN 16116, *Railway applications – Design requirements for steps, handrails and associated access for staff*, which consists of the following parts:

- *Part 1: Passenger vehicles, vans and locomotives*
- *Part 2: Freight wagons*

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

- a) 6.2.1 Space for shunter during coupling (Berne Rectangle) is deleted and transferred to prEN 16839:2020;
- b) 6.3.2 Clearance for draw hook is deleted and transferred to prEN 16839:2020;
- c) Annex A (normative) Calculation of space for shunter (Berne Rectangle) in curves when using screw couplings is deleted and transferred to prEN 16839:2020.

This document has been prepared under a Standardization Request given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of Directive(s) / Regulation(s).

For relationship with Directive(s) / Regulation(s), see informative Annex ZA, which is an integral part of this document.

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, Turkey and the United Kingdom.

EN 16116-2:2021 (E)

Introduction

Freight wagons are designed so that staff are not exposed to undue risk during coupling and access to the vehicle or to special equipment.

This document gives requirements related to steps, handrails and shunter's steps for freight wagons, to allow temporary travel outside the vehicle during shunting as well as to access the vehicle.

1 Scope

This document is applicable to all types of freight wagons.

This document specifies the minimum requirements for ergonomic and structural integrity of steps and handrails used together to give staff access. It does not cover ladders, top platforms and top gangways.

It defines in particular the required spaces necessary for shunter handrails, for shunter's stand, for steps and handrails.

This document also defines their dimensions, positions, limits for durability and functionality.

It also defines the general requirements for the access to tail lights.

2 Normative references

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 10025-2:2019, *Hot rolled products of structural steels - Part 2: Technical delivery conditions for non-alloy structural steels*

EN 12561-7:2011, *Railway applications - Tank wagons - Part 7: Platforms and ladders*

EN 15085-1:2007+A1:2013, *Railway applications - Welding of railway vehicles and components - Part 1: General*

EN 15085-2:2020, *Railway applications - Welding of railway vehicles and components - Part 2: Requirements for welding manufacturer*

EN 15085-3, *Railway applications - Welding of railway vehicles and components - Part 3: Design requirements*¹⁾

EN 15085-4, *Railway applications - Welding of railway vehicles and components - Part 4: Production requirements*²⁾

EN 15085-5, *Railway applications - Welding of railway vehicles and components - Part 5: Inspection, testing and documentation*³⁾

prEN 15085-6:2020, *Railway applications – Welding of railway vehicles and components – Part 6: Maintenance welding requirements*

EN 15273-2:2013+A1:2016, *Railway applications - Gauges - Part 2: Rolling stock gauge*

EN 17343:2020, *Railway applications - General terms and definitions*

1) The document is currently being revised. For the application of EN 16116-2, reference is made to prEN 15085-3:2021.

2) The document is currently being revised. For the application of EN 16116-2, reference is made to prEN 15085-4:2020.

3) The document is currently being revised. For the application of EN 16116-2, reference is made to prEN 15085-5:2020.