

Raudteealased rakendused. Konstruksiooninõuded astmetele, käsipuudele ja seonduvatele personali juurdepääsuteedele. Osa 1: Reisisveerem, pagasivagunid ja vedurid

Railway applications - Design requirements for steps, handrails and associated access for staff - Part 1: Passenger vehicles, luggage vans and locomotives

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English Version

**Railway applications - Design requirements for steps, handrails
and associated access for staff - Part 1: Passenger vehicles,
luggage vans and locomotives**

Applications ferroviaires - Exigences pour la conception des
marchepieds, poignées et accès destinés au personnel -
Partie 1: Véhicules voyageurs, fourgons à bagages et
locomotives

Bahnanwendungen - Konstruktionsanforderungen an Tritte,
Handgriffe und zugehörige Zugänge für das Personal - Teil
1: Personenfahrzeuge, Gepäckwagen und Lokomotiven

This European Standard was approved by CEN on 29 May 2013.

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Contents

Page

Foreword.....	3
Introduction	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 General requirements for steps and handrails.....	6
5 Requirements for handling screw couplings with side buffers	8
5.1 General.....	8
5.2 Shunter's stand.....	9
5.3 Steps	9
5.3.1 Shunter's step	9
5.3.2 Steps at corners of shunting powered units	10
5.4 Handrails.....	10
5.4.1 Shunter handrail	10
5.4.2 Handrails corresponding to shunter's stand.....	11
5.4.3 Handrails for steps at corners of shunting powered units	11
5.5 Transverse platform for shunting powered units.....	11
6 Reserved spaces.....	11
6.1 General.....	11
6.2 Space for shunting staff operation	11
6.2.1 Space for shunter during coupling (Berne Rectangle).....	11
6.2.2 Space for the shunter during temporary travel	12
6.2.3 Clearance for draw hook.....	13
7 External access to vehicles with a driver's cab	13
7.1 General.....	13
7.2 Steps	14
7.3 Handrails and door handles	15
7.4 Additional requirements for passenger entrance doors used for access to driver's cab	16
8 Access to other equipment.....	16
8.1 General.....	16
8.2 Steps	16
8.3 Handrails.....	17
Annex A (informative) Gratings	18
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EC Directive 2008/57/EC	20
Bibliography	22

Foreword

This document (EN 16116-1:2013) 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 March 2014, and conflicting national standards shall be withdrawn at the latest by March 2014.

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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.

This European standard 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, luggage vans and locomotives;*
- *Part 2: Freight wagons.*

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Introduction

Locomotives, luggage vans and passenger rolling stock are designed so that staff are not exposed to undue risk during coupling and access to the vehicle or to special equipment. It is therefore essential to define common requirements for rolling stock.

1 Scope

This European Standard specifies the minimum ergonomic and structural integrity requirements for steps and handrails used by railway staff to access passenger vehicles, luggage vans, locomotives and power units of rolling stock. It also applies to passenger-rated car carriers.

This European Standard defines the required spaces necessary for handling of screw couplings with side buffers, shunter handrails and shunter's stand. For staff access, it defines footsteps, handrails and their dimensions and free spaces. To fulfil the requirements for loads which are applied by the staff, it defines dimensions and requirements for materials or design loads.

It also defines the general requirements of steps and handrail for access to external equipment, for example windscreens, wipers or external lights.

This European Standard does not cover on track machines (mobile railway infrastructure construction and maintenance equipment) and tram-trains.

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 131 (all parts), *Ladders*

EN 10025-2:2004, *Hot rolled products of structural steels — Part 2: Technical delivery conditions for non-alloy structural steels*

EN 14752:2005, *Railway applications — Bodyside entrance systems*

EN 15085 (all parts), *Railway applications — Welding of railway vehicles and components*

EN 15273 (all parts), *Railway applications — Gauges*

EN 16116-2, *Railway applications — Design requirements for steps, handrails and associated staff access — Part 2: Freight wagons*

3 Terms and definitions

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

3.1

clearance

defined free space which is needed to ensure space for the correct functioning of, and safety when handling, devices

3.2

step

footstep with defined properties solely for staff use

3.3

shunter

shunting staff who couple and uncouple vehicles and direct movements