
Železniške naprave - Načrtovanje za osebe z omejenimi gibalnimi sposobnostmi - Splošne zahteve - 2. del: Informacije

Railway applications - Design for PRM Use - General Requirements - Part 2: Information

Bahnanwendungen - Gestaltung für mobilitätseingeschränkte Menschen - Allgemeine Anforderungen - Teil 2: Informationen

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Applications ferroviaires - Conception destinée à l'usage par les PMR: Exigences générales - Partie 2: Informations

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Bahnwendungen - Gestaltung für die Nutzung durch PRM - Allgemeine Anforderungen - Teil 2: Informationen

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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European foreword

This document (EN 16584-2:2017) 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of an identical text or by endorsement, at the latest by July 2017, and conflicting national standards shall be withdrawn at the latest by July 2017.

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 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.

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.

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EN 16584-2:2017 (E)**Introduction**

This document is part of a suite of four ‘Design for PRM use’ standards that have in total nine parts:

- EN 16584 is a standard that covers both infrastructure and rolling stock — Railway applications — Design for PRM use — General requirements:
 - Part 1: Contrast (EN 16584-1)
 - Part 2: Information (EN 16584-2)
 - Part 3: Optical and friction characteristics (EN 16584-3)
- EN 16585 is a standard that covers rolling stock — Railway applications — Design for PRM use — Equipment and components on board rolling stock:
 - Part 1: Toilets (EN 16585-1)
 - Part 2: Elements for sitting, standing and moving (EN 16585-2)
 - Part 3: Clearways and internal doors (EN 16585-3)
- EN 16586 is a standard that covers rolling stock — Railway applications — Design for PRM use — Accessibility of persons with reduced mobility to rolling stock:
 - Part 1: Steps for access and egress (EN 16586-1)
 - Part 2: Boarding aids (EN 16586-2)
- EN 16587 is a standard that covers infrastructure — Railway applications — Design for PRM use — Requirements for obstacle free routes for infrastructure.

These standards aim to clarify the requirements (with clear and consistent terms and definitions) and to define the associated criteria and, where appropriate, methodologies to allow a clear pass/fail assessment.

1 Scope

This European Standard describes the specific 'Design for PRM use' requirements applying to both infrastructure and rolling stock and the assessment of those requirements. The following applies to this standard:

- The definitions and requirements describe specific aspects of 'Design for PRM use' required by persons with disabilities and persons with reduced mobility as defined in the PRM TSI.
- This standard defines elements which are universally valid for obstacle free travelling including lighting, contrast, tactile feedback, transmission of visual and acoustic information. The definitions and requirements of this standard cover the infrastructure and the rolling stock applications.
- This standard only refers to aspects of accessibility for PRM passengers it does not define non PRM related requirements and definitions.
- This standard assumes that the infrastructure or rolling stock is in its defined operating condition.
- Where minimum or maximum dimensions are quoted these are absolute NOT nominal requirements.

The 'General requirements' standard is written in three parts:

- Part 1 contains
 - contrast;
- This document is Part 2 and contains
 - spoken information;
 - written information;
 - tactile information;
 - pictograms;
- Part 3 contains
 - lighting;
 - low reflective properties;
 - transparent obstacles;
 - slip resistance.

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EN 16584-2:2017 (E)**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 81-70:2003, *Safety rules for the construction and installations of lifts — Particular applications for passenger and good passengers lifts — Part 70: Accessibility to lifts for persons including persons with disability*

EN 16584-1:2017, *Railway applications — Design for PRM use — General requirements — Part 1: Contrast*

EN 16584-3, *Railway applications — Design for PRM use — General requirements — Part 3: Optical and friction characteristics*

EN 16585-1, *Railway applications — Design for PRM use — Equipment and components on board rolling stock — Part 1: toilets*

EN 16585-2:2017, *Railway applications — Design for PRM use — Equipment and components on board rolling stock — Part 2: Elements for sitting, standing and moving*

prEN 16587:2013, *Railway applications — Design for PRM use — Requirements for obstacle free routes for infrastructure*

EN 60268-16, *Sound system equipment — Part 16: Objective rating of speech intelligibility by speech transmission index (IEC 60286-16)*

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

ISO 7000, *Graphical symbols for use on equipment — Registered symbols*

ISO 7001, *Graphical symbols — Public information symbols*

ISO 21542, *Building construction — Accessibility and usability of the built environment*

ETSI EN 301 462 (2000-03), *Human Factors (HF); Symbols to identify telecommunications facilities for deaf and hard of hearing people*

3 Terms and definitions

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

3.1**ascender**

part of any of the characters b, d, f, h, i, j, k, l or t which protrudes above the x-height of the character

Note 1 to entry: For examples see Annex F

3.2**bezel**

raised area that surrounds a pressel as part of a pushbutton

3.3**character height**

vertical size of uppercase letters or numbers

Note 1 to entry: For examples see Annex F.

3.4**compressed 'ascender'**

ascender that has been compressed or squashed or misaligned and does not use a consistent x-height and/or ascender height

Note 1 to entry: For examples see Annex F.

3.5**compressed 'descender'**

descender that has been compressed or squashed or misaligned and does not use a consistent x-height and/or descender height

Note 1 to entry: For examples see Annex F.

3.6**contrast**

perception of a difference visually between one surface or element of a building/rail vehicle and another by reference to their light reflectance values (LRV) or luminance values

Note 1 to entry: See BS 8300:2009+A1:2010 for further information.

3.7**customer information**

all visual and spoken information other than information intended only for staff

3.8**descender**

part of any of the characters g, j, p, q or y which protrudes below the level of the baseline

Note 1 to entry: For examples see Annex F.

3.9**essential information**

subset of customer information delivered within the confines of the infrastructure comprising information concerning the departure of train services and safety instructions

Note 1 to entry: Platform number, train routeing information, departure times and any updates/changes to previously available information and actions required in reaction to a threat to personal safety (e.g. evacuate station FIRE!, stand back from platform edge train approaching) .

EN 16584-2:2017 (E)**3.10****first step**

step that is the first step for a passenger to use, to overcome a height change

Note 1 to entry: For the external access/egress steps this will normally be the step that is closest to the platform edge (it may be a fixed or a moveable step), therefore this is the first step when boarding and the last step when alighting.

Note 2 to entry: In the context of steps for internal height changes (other than the external access/egress steps) this means the first usable step when ascending and the edge of the walking floor when descending

3.11**halo**

illuminated ring surrounding a pressel, not necessarily continuous

3.12**innovative solution**

technological progression that results in a solution that does not comply with the specification set out in Clause 5 of this standard or for which there are no assessment methods

Note 1 to entry: An innovative solution (Article 6 Commission Regulation (EU) No 1300/2014) may only be used following a positive opinion from the European Commission

3.13**last step**

final step for an ascending passenger to use to overcome a height change, forming the edge of the walking floor

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3.14**low reflective properties**

characteristics that reduce reflection of light from a surface

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3.15**mixed case**

text using a combination of upper and lower case characters

Note 1 to entry: For examples see Annex F

3.16**pictogram**

graphical symbol, diagram or figure with a particular meaning which directly represents or conveys its meaning independently of language through a pictorial representation of a physical object, action or character

Note 1 to entry: Refer to ISO 7001:2007, ISO/TR 7239 and ISO 9186 for rules regarding graphical symbols and frames.

3.17**pressel**

surface of the pushbutton which is pressed in order to activate the pushbutton

3.18**routeing information**

information, used by passengers to guide them on their journey, a guide as to which route to take to get to a required destination or facility and changes along that journey

Note 1 to entry: This can be temporary information to an event e.g. exhibition or sporting event but NOT any form of commercial advertising

3.19**sans serif font**

character set from a sans serif typeface

Note 1 to entry: For examples see Annex F.

3.20**sans serif**

without serifs

Note 1 to entry: For examples see Annex F.

3.21**serif**

additional stroke or line attached to the main strokes of a character or number

Note 1 to entry: For examples see Annex F.

3.22**slip resistant**

surface finish that is sufficiently rough or otherwise specially formulated so that friction between the surface and a person's footwear or mobility aid is maintained at an acceptable level in both wet and dry conditions

Note 1 to entry: Snow and ice are outside this definition and this standard, therefore other special measures (e.g. operational) should be taken for steps and platforms etc that are exposed to these weather conditions

3.23**spoken information**

information audibly communicated in words

Note 1 to entry: This can be direct, pre-recorded or synthesized information.

3.24**station**

any form of infrastructure where a train operates and passengers can board or alight in normal operation

3.25**station building**

any building or structure within the confines of the station in areas for use by passengers which can be open at different times to the overall station

Note 1 to entry: This does not include other commercial structures that are not essential for travel

EN 16584-2:2017 (E)**3.26****tactile**

information that is understood through the physical sense of touch

Note 1 to entry: Tactile signs, controls, symbols, pictograms, guide path and braille or raised characters are a physical means by which tactile information is provided

3.27**transparent obstacle**

obstacle that allows objects or images to be seen as if there were no intervening material, seen through with a level of clarity

Note 1 to entry: Transparency in this standard is when an obstacle allows at least 50 % direct light transmission.

3.28**typeface**

character set (letters and numbers) of a particular design that is categorised as either 'serif' or 'sans serif' where this is a collective definition of all the characters in that typeface and not the individual characters

Note 1 to entry: Examples of the characters in a 'serif and 'sans serif' typeface are shown in Annex F and example typefaces in Annex N

3.29**universal toilet**

toilet designed to be used by all passengers including passengers in wheelchairs

3.30**visual acuity**

clearness or acuteness of vision

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3.31**visual information**

written information, pictograms and markings

3.32**written information**

information visually communicated in words, letters and numerals, excluding pictograms and markings

4 Symbols and abbreviations

Table 1 —Abbreviations

Abbreviation	Designation
EN	European Standard
ISO	the International Organization for Standardization
NCS	Natural Colour System
PRM	Persons with disabilities and persons with reduced mobility
RAL	German colour matching system issued by RAL gGmbH.
STI-PA	Speech Transmission Index Passenger Address
TSI	Technical Specification for Interoperability

Table 2 —Symbols

Symbol	Designation	Unit
%ile	percentile	
dB	unit of noise level	decibel
dB LAeq	average noise levels	decibel
Hz	unit of frequency	Hertz
<i>L</i>	unit of luminance in candela per square metre	cd/m ²
m	unit of length	metre
mm	unit of length	millimetre
s	unit of time	second

5 Requirements and assessment

5.1 General

Assessment of the requirements identified in Clause 5 shall be according to Annex H and Annex I. Where additional assessment criteria apply, these will be identified against the relevant clause.

All dimensions in the figures are in millimetres (mm) unless otherwise stated.

5.2 Infrastructure

5.2.1 Parking facilities for persons with disabilities and persons with reduced mobility

Where a station specific parking area exists, there shall be sufficient and adapted parking spaces reserved for persons with disabilities and persons with reduced mobility eligible to utilize them at the nearest practicable position, within the parking area, to an accessible entrance.