SLOVENSKI STANDARD
oSIST prEN 16585-3:2022

01-julij-2022

Železniške naprave - Načrtovanje za osebe z omejenimi gibalnimi sposobnostmi - Oprema in sestavni deli na železniških vozilih - 3. del: Prehodi in notranja vrata

Railway applications - Design for PRM use - Equipment and components on board rolling stock - Part 3: Clearways and internal doors

Bahnanwendungen - Gestaltung für die Nutzung durch PRM - Ausstattung und Bauteile in Schienenfahrzeugen - Teil 3: Lichte Räume und Innentüren

Applications ferroviaires - Conception destinée à l'usage par les PMR - Equipements et éléments à bord du matériel roulant - Partie 3 : Passages et portes intérieures

Ta slovenski standard je istoveten z: **prEN 16585-3**

ICS:

11.180.01	Pripomočki za onesposobljene in hendikepirane osebe na splošno	Aids for disabled and handicapped persons in general
45.060.20	Železniški vagoni	Trailing stock

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EUROPEAN STANDARD

NORME EUROPÉENNE

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prEN 16585-3

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Will supersede EN 16585-3:2017

English Version

Railway applications - Design for PRM use - Equipment and components on board rolling stock - Part 3: Clearways and internal doors

Applications ferroviaires - Conception destinée à l'usage par les PMR - Equipements et éléments à bord du matériel roulant - Partie 3 : Passages et portes intérieures

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This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 256.

If this draft becomes a European Standard, 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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European foreword

This document (prEN 16585-3:2022) has been prepared by Technical Committee CEN/TC 256 “Railway applications”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 16585-3:2017.

In comparison with the previous edition, the following technical modifications have been made:

— The document template has been updated

— The document has been revised generally for document references and editorial issues with grammar

— Scope modified

— Normative references updated

— Terms and definitions revised

— 5.2.2 (1) Change to undated reference for EN 14752 for closing peak force

— 5.3 (3) Figure 4 updated

— 5.3 (6) Additional Figure giving graphical representation of Table 3

— Annex A “EC verification - Interoperability constituents” removed

— Annex B “Summary of testing requirements” removed

— Annex C “Use of Force Meter” is now Annex A

— Annex ZA updated.

— Bibliography updated

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 EU Directive(s) / Regulation(s).

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

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 onboard 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 document describes the specific 'Design for PRM use' requirements applying to rolling stock and the assessment of those requirements. The following applies to this document:

— 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 document defines elements which are universally valid for obstacle-free travelling including toilets, elements for sitting, standing and moving and clearways and internal doors. The definitions and requirements of this standard are to be used for rolling stock applications

— This document only refers to aspects of accessibility for PRM passengers; it does not define non-PRM related requirements and definitions.

— This document assumes that the rolling stock is in its defined operating condition.

— Where minimum or maximum dimensions are quoted these are absolute NOT nominal requirements.

— This document is not specifically intended for Urban Rail, however these standards or clauses from these standards can be adopted by Urban Rail projects should they choose to do so.

The 'Equipment and components' standard is written in three parts:

— Part 1 contains:
  — Toilets
— Part 2 contains:
  — Handholds
  — Seats
  — Wheelchair spaces
— This document is Part 3 and contains:
  — Clearways
  — Internal doors.

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 1756-2, *Tail lifts - Platform lifts for mounting on wheeled vehicles - Safety requirements - Part 2: Tail lifts for passengers*

prEN 16584-1:2022, *Railway applications — Design for PRM use - General requirements — Part 1: Contrast*

prEN 16584-2:2022, *Railway applications — Design for PRM use - General requirements — Part 2: Information*

prEN 16585-1:2022, *Railway applications — Design for PRM use - Equipment and components onboard rolling stock — Part 1: Toilets*

prEN 16585-2:2022, *Railway applications — Design for PRM use - Equipment and components onboard rolling stock — Part 2: Elements for sitting, standing and moving*

prEN 16586-2:2022, *Railway applications — Design for PRM use - Accessibility of persons with reduced mobility to rolling stock — Part 2: Boarding aids*

EN 14752, *Railway applications - Body side entrance systems for rolling stock*

3 Terms and definitions

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
automatic door
powered door which opens and closes without the need for the passenger to operate a control device

3.2
clear width
clear usable width
unobstructed width of an open door or clearway to allow all passengers, including PRM, to pass through

3.3
clearway
unobstructed space with defined widths and heights to allow movement within a vehicle

3.4
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 (fixed or 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.

3.5
gangway
means for passengers to pass from one vehicle of a train to the adjacent vehicle and includes the inter-vehicle connection device and any aisle (e.g. between body end cupboards, cabinets or toilets) immediately adjacent to the device

Note 1 to entry: This definition is intentionally different from EN 16286-1.

3.6
inter-vehicle gangway
articulating device allowing transit between vehicles (provided for passenger use)

Note 1 to entry: This definition is similar to the definition in EN 16286-1 for gangway system.

3.7
handrail
continuous element with round cross section for passengers to use to aid personal stability by gripping around

3.8
last step
final step for an ascending passenger to use to overcome a height change, forming the edge of the walking floor

3.9
manual door
unpowered door which the passenger has to physically open and/or close

3.10
palm operable
operable by the palm or any part of the hand, not requiring fingers to be unclenched

Note 1 to entry: The design need is that passengers with painful conditions, which affect their joints such as arthritis, may be unable to (and are likely to experience discomfort or pain if they do) exert any force with the tip of a single finger. Many may not be able to unclench their fingers to do this or perform any pulling action.

3.11
proximity sensor
sensor that can be used to control facilities without the control device being physically touched

3.12
semi-automatic door
powered door which opens and/or closes following operation of a control device by a passenger

3.13
step nose (nosing)
intersection point of the projections of horizontal and vertical surfaces of a step

Note 1 to entry: This is illustrated in prEN 16586-1:2022, Annex B showing example step noses.

3.14
universal toilet
toilet designed to be used by all passengers including passengers in wheelchairs

3.15
usable width
unobstructed width of an open door or passageway allowing for passengers to pass through

3.16
wheelchair
wheeled personal mobility device

Note 1 to entry: Wheelchair characteristics are defined in EN 16585-1, Annex A.

3.17
wheelchair space
designated space in the passenger compartment for the wheelchair users and their wheelchairs

Note 1 to entry: Space can be designed for two wheelchairs, one beside the other (dual).

4 Symbols and abbreviations

For purposes of this document, the symbols and abbreviations in Table 1 and Table 2 apply.

Table 1 — Abbreviations

Abbreviation	Designation
EN	European Standard (Euronorm)
ISO	International Organization for Standardization
PRM	Persons with disabilities and persons with reduced mobility
TSI	Technical Specification for Interoperability

Table 2 — Symbols

Symbols	Designation	Unit
°	Angle	degree
mm	Length	millimetre
N	Force	Newton

5 Requirements and assessment

5.1 General

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

5.2 Doors

5.2.1 General

1) These requirements apply only to doors providing access to another public part of the train, with the exclusion of toilet doors.

   — When assessing these requirements, they are only applicable to doors that provide access to parts of the train that are intended for use by the travelling public. (This excludes, for example, train crew only areas and equipment cupboards).

2) To latch or unlatch a manually operated door for use by the public, the control device shall:

   i. Be palm operable of the hand.

      — Assessment shall be as described in Clause 6.

   ii. Be operable by exerting a force not exceeding 20 N.

      — Assessment of force required to operate a control device shall be by pulling or pushing the device depending on its normal mode of operation with the representative clenched fist as

described in Clause 6 with a ‘force gauge’ or 'force meter' until the door is latched or unlatched. See Annex A for an example force meter.

3) Door controls, whether manual, pushbuttons or other devices shall:

   i. Contrast with the surface on which they are mounted

      — Contrast shall be assessed according to prEN 16584-1:2022.

   ii. Have visual indication, on or around it when enabled

      — Visual indication shall be assessed according to prEN 16584-2:2022.

      — This requirement shall only be assessed for electrical devices requiring a physical force to be applied in order to operate.

   iii. Be palm operable of the hand exerting a force not greater than 15 N

      — Assessment of force required to operate a control device shall be by pulling or pushing the device depending on its normal mode of operation with the representative clenched fist as described in Clause 6 with a ‘force gauge’ or 'force meter' until the door is latched or unlatched. See Annex A for an example force meter.

   iv. Be identifiable by touch this identification shall indicate the functionality.

      — 'Identifiable by touch' in this context shall be assessed as tactile (for example tactile markings) according to prEN 16584-2:2022.

   v. If both the ‘open’ and ‘close’ door control devices are fitted one above the other: the top button shall always be the open control.

      — To be subject to this requirement the buttons do not need to be directly one above the other.

4) For systems that are operated by proximity sensors the requirements in 5.2.1 (3) do not apply. Proximity sensors should detect objects (for example a guide dog) at a minimum of 500 mm and upwards from the walking floor.

5.2.2 Interior doors

1) Internal automatic and semi-automatic doors shall incorporate devices that prevent passengers becoming trapped during operation of the doors.

   — Assessment for Exterior doors closing peak force shall be according to the standard value and method described in EN 14752.

2) Interior doors that are made available for wheelchair users shall have a minimum clear usable width of 800 mm, see Figure 1.

   — When assessing this requirement there shall be no protrusions into the minimum clear usable width of 800 mm, such as handles or other features, from the floor up to a minimum height of 1 450 mm.