



SLOVENSKI STANDARD

oSIST prEN 16587:2022

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Železniške naprave - Načrtovanje za osebe z omejenimi gibalnimi sposobnostmi - Zahteve za infrastrukturo brez ovir na poti

Railway applications - Design for PRM Use - Requirements on obstacle free routes for infrastructure

Bahnanwendungen - Gestaltung für die Nutzung durch PRM - Anforderungen an die Infrastruktur für hindernisfreie Wege

Applications ferroviaires - Conception destinée à l'usage par les PMR - Exigences relatives aux cheminements libres d'obstacles pour l'infrastructure

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11.180.01	Pripomočki za onesposobljene in hendikepirane osebe na splošno	Aids for disabled and handicapped persons in general
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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

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Will supersede EN 16587:2017

English Version

Railway applications - Design for PRM Use - Requirements on obstacle free routes for infrastructure

Applications ferroviaires - Conception destinée à
l'usage par les PMR - Exigences relatives aux
cheminements libres d'obstacles pour l'infrastructure

Bahnwendungen - Gestaltung für die Nutzung durch
PRM - Anforderungen an die Infrastruktur für
hindernisfreie Wege

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

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Contents	Page
European foreword	3
Introduction	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	6
4 Symbols and abbreviations	7
5 Requirements and assessment	7
5.1 General.....	7
5.2 Obstacle-free routes.....	7
5.3 Horizontal circulation	9
5.3.1 General.....	9
5.3.2 Vertical circulation.....	10
5.4 Route identification	11
5.5 Doors and entrances.....	11
5.6 Floor surfaces	12
5.7 Highlighting of transparent obstacles.....	12
5.8 Toilets and baby nappy changing facilities	12
5.9 Furniture and free-standing devices	12
5.10 Ticketing, information desks and customer assistance points.....	13
5.11 Lighting.....	14
5.12 Visual Information: Sign posting, Pictograms, Printed or Dynamic Information.....	14
5.13 Spoken Information	14
5.14 Platform Width and Edge of Platform.....	14
5.15 End of Platform	15
5.16 Boarding Aids Stored on Platforms.....	15
5.17 Passenger track crossings to platforms.....	15
Annex A (informative) Good practice	19
A.1 General.....	19
A.2 Design Standards for Accessible Railway Stations: A joint Code of Practice by the Department for Transport (UK) and Transport Scotland March 2015	19
A.3 Inclusive Mobility – Department for Transport (UK) December 2005	19
A.4 Specifying a main route	20
A.5 Weather Protection.....	20
Annex B (informative) A-deviations	21
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive (EU) 2016/797 aimed to be covered	22
Bibliography	25

European foreword

This document (prEN 16587:2022) 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 16587:2017.

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
- 5.14 References updated
- Annex A “EC verification - Interoperability constituents” removed
- Annex B “Summary of testing requirements” removed
- Annex C “Good practice” is now Annex A
- Annex D “A-Deviations” is now Annex B
- 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.

prEN 16587:2022 (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 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.

This document contains requirements relating to 'Obstacle-free routes'.

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 81-70, *Safety rules for the construction and installation of lifts - Particular applications for passenger and goods passenger lifts - Part 70: Accessibility to lifts for persons including persons with disability*

EN 115-1, *Safety of escalators and moving walks - Part 1: Construction and installation*

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 16584-3:2022, *Railway applications - Design for PRM use - General requirements - Part 3: Optical and friction characteristics*

prEN 16585-1:2022, *Railway Applications — Design for PRM Use — Equipment and Components Onboard Rolling Stock — Part 1: Toilets*

prEN 16586-2:2022, *Railway Applications — Design for PRM Use — Accessibility of Persons with Reduced Mobility to Rolling Stock — Part 2: Boarding Aids*

EN ISO 2813, *Paints and varnishes - Determination of gloss value at 20°, 60° and 85° (ISO 2813:2014)*

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

ISO 23599, *Assistive products for blind and vision-impaired persons — Tactile walking surface indicators*

prEN 16587:2022 (E)**3 Terms and definitions**

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

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**boarding aid**

device (fixed or portable) that bridges the gap between rolling stock and platform to allow a PRM to board or alight from a train

Note 1 to entry: These include manual, semi-automatic or automatic ramps, lifts and other devices.

3.3**handrail**

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

3.4**manual door**

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

3.5**obstacle-free route**

link between two or more public areas dedicated to the transport of passengers that can be navigated independently by all persons with disabilities and reduced mobility

Note 1 to entry: In order to achieve this, the route can be divided to better meet the needs of all persons with disabilities and reduced mobility. The combination of all the parts of the obstacle-free route constitutes the route accessible for all persons with disabilities and reduced mobility.

3.6**station**

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

3.7**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.

3.8**step-free route**

division of an obstacle-free route that meets the needs of mobility impaired persons by avoiding changes in level or, when they cannot be avoided, are bridged via ramps or lifts

3.9**weather protection**

protection against the effects of weather

Note 1 to entry: The level of weather protection is regulated by national Rules

3.10**wheelchair**

wheeled personal mobility device

Note 1 to entry: Wheelchair characteristics are defined in prEN 16585-1:2022, Annex A.

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
UIC	Union Internationale des Chemins de Fer

Table 2 — Symbols

Symbols	Designation	Unit
km	Length	kilometre
mm	Length	millimetre
N	Force	Newton

5 Requirements and assessment**5.1 General**

Where additional assessment criteria apply, these will be identified against the relevant clause.

All measurements in figures unless otherwise stated shall be in full millimetres.

5.2 Obstacle-free routes - General requirements of an obstacle-free route

1) Obstacle-free routes shall be provided

i. That accommodate all categories of PRM on the same route

- Where there are height changes the route may diverge to accommodate ramps, steps or lifts, for example.
- The route shall converge after the height changes and continue as a single route, unless the destination has already been reached.

prEN 16587:2022 (E)

- For assessment: an example scenario would be moving through the station area to the platform area, the route diverges to utilize stairs and a separate lift or ramp to overcome the height change to the elevated walkway, the route converges on the elevated walkway above the tracks, then diverges to stairs and a separate lift or ramp, to overcome the height change back to platform level but there is no necessity to converge the routes again to a single point as the platform was the destination.
- ii. At all times, for when trains are timetabled to operate at that station.
- iii. That interconnect the following public areas of the infrastructure, if provided and during the normal operation of those facilities:
 - a) Stopping points for other connecting modes of transport within the station confines (for example, taxi, bus, tram, metro, ferry)
 - b) Car parks
 - c) Accessible entrances and exits
 - d) Information desks
 - e) Visual and audible information systems
 - f) Ticketing facilities
 - g) Customer assistance
 - h) Waiting areas
 - i) Toilet facilities
 - j) Platforms
 - k) Customs
 - l) Border control

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NOTE See Figure A.1 for an example of an obstacle-free route connecting to a variety of services with tactile path.

- 2) All obstacle-free routes, footbridges and subways, shall have a free width of a minimum of 160 cm except in areas that are specified in points 4.2.1.2.2(3a) (ramps), 4.2.1.3(2) (doors), 4.2.1.12(3) (platforms) and 4.2.1.15(2) (level crossings)).
 - There may be reasons that require the route to diverge to accommodate different categories of PRM, provided each diversion is the shortest practical distance for that category of PRM.
 - When the station building is open during the operating time for passenger traffic the main route shall pass through the station building if it is the shortest practical route.
 - When the station building is closed during the operating time for passenger traffic, all passengers shall be directed to an alternative route within the station confines.

- This should be based on good practice as described in Annex A. An example of a specification for a main route is described in Annex A.
- 3) Obstacle-free route floor surfaces and ground surfaces shall have low reflecting properties.
- Assessment shall be in accordance with EN ISO 2813 for paints and varnishes, an achieved gloss value of 50 or lower shall be assumed to be compliant. For any other ground material and/or surface materials an assessment is not necessary.

5.3 Horizontal circulation

5.3.1 General

- 1) All obstacle-free routes, footbridges and subways shall have a free width of a minimum of 1 600 mm, except in doors, platforms and level crossings
- Assessment: minimum width shall be maintained from floor height to the minimum headroom requirement
 - Assessment: handrails may not encroach into the free width, shown in Figure 1
 - Assessment: exceptions for platforms are specified in 5.13

NOTE 1 This requirement is further explained in UIC 140.

- Assessment: the minimum width requirement does not take into account any additional width that may be required for passenger flows, these additional widths shall be in accordance with National Rules.

NOTE 2 This requirement is not applicable to escalators, travelators and lifts. Where travelators are provided other options are to be available to a wheelchair user.

<https://standards.iteh.ai/catalog/standards/sist/b3c68dd0-47bd-42cf-a9a3-b5903aa5bea0/osist-pren-16587-2022>

Dimensions in millimetres

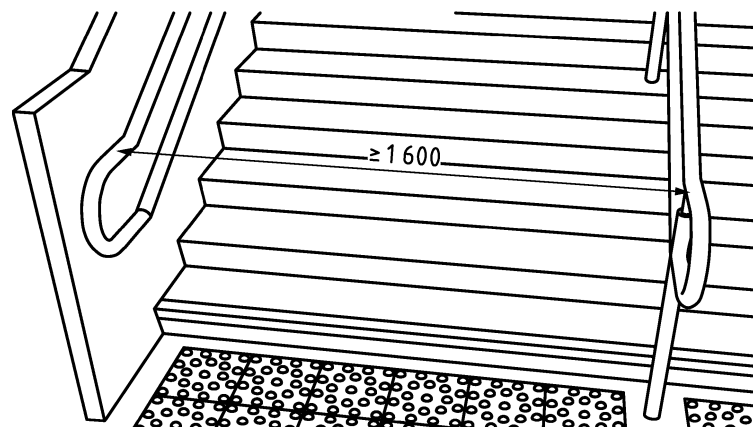


Figure 1 — Obstacle-free width at stairs example showing a minimum width of 1 600 mm between handrails (tactile indicator shown as example only)

- 2) Where thresholds are installed on a horizontal route, they shall contrast with the surrounding floor and shall not be higher than 25 mm.
- Assessment: Contrast shall be according to prEN 16584-1:2022.