



BSI Standards Publication

Railway applications — Design for PRM use — General requirements

Part 3: Optical and friction characteristics

National foreword

This British Standard is the UK implementation of EN 16584-3:2025. It supersedes BS EN 16584-3:2017, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee RAE/1/-/15, Railway Applications - People with Reduced Mobility.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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

Applications ferroviaires - Conception destinée à
l'usage par les PMR - Exigences générales - Partie 3 :
Caractéristiques optiques et de friction

Bahnanwendungen - Gestaltung für die Nutzung durch
PRM - Allgemeine Anforderungen - Teil 3: Optische
Eigenschaften und Rutschfestigkeit

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European foreword

This document (EN 16584-3:2025) 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of an identical text or by endorsement, at the latest by April 2026, and conflicting national standards shall be withdrawn at the latest by April 2026.

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 16584-3:2017.

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;
- 5.1 References to Annex A (EC Verification) and B (Summary of Testing Requirements) removed;
- 5.2.4 updated
- Annex A “EC verification - Interoperability constituents” removed;
- Annex B “Summary of testing requirements” removed;
- Annex ZA updated;
- Bibliography updated.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, 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, Türkiye and the United Kingdom.

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 document 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 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 that are universally valid for obstacle-free travelling relating to lighting, optical and friction characteristics. The definitions and requirements of this document cover the infrastructure and 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 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.
- Part 2 contains:
 - spoken information;
 - written information;
 - tactile information;
 - pictograms;
 - audible signals.
- This document is Part 3 and contains:
 - lighting;
 - low reflective properties;
 - transparent obstacles;
 - slip resistance.

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 1838:2024, *Lighting applications — Emergency lighting*

EN 12464-1:2021, *Light and lighting - Lighting of work places - Part 1: Indoor work places*

EN 12464-2:2024, *Light and lighting — Lighting of work places Part 2: Outdoor work places*

EN 13272-1:2019, *Railway applications - Electrical lighting for rolling stock in public transport systems - Part 1: Heavy rail*

EN 16584-1:2025, *Railway applications — Design for PRM use — General Requirements — Part 1: Contrast*

EN 16584-2:2025, *Railway applications — Design for PRM use — General Requirements — Part 2: Information (Basel)*

EN 16587:2025, *Railway applications — Design for PRM use — Requirements for Obstacle-free Routes for Infrastructure*

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

ISO 4649:2024, *Rubber, vulcanized or thermoplastic — Determination of abrasion resistance using a rotating cylindrical drum device*

ISO 21542:2021, *Building construction — Accessibility and usability of the built environment*

3 Terms and definitions

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

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

- ISO Online browsing platform: available at <https://www.iso.org/obp/>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1

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 8300-1 and BS 8300-2 for further information.

3.2

Light Reflectance Value

LRV

total quantity of visible light that is reflected by a surface at all wavelengths and directions when illuminated by a light source

Note 1 to entry: The measured range of LRV is between 0 points and 100 points, with a value of 0 points for pure black and a value of 100 points for pure white.

3.3

low reflective properties

characteristics that reduce reflection of light from a surface

3.4

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.

3.5

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 7001:2023, ISO 22727:2007 and ISO 9186 (all parts) for rules regarding graphical symbols and frames.

3.6

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.

3.7

spoken information

information audibly communicated in words

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

3.8

station

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

3.9
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.

3.10
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.

3.11
visual acuity

threshold of the capacity of the eye to perceive fine details of a visual object (a sign), the recognizability of which depends on the visual angle

3.12
visual information
written information, pictograms and markings

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
CIE	International Commission on Illumination
EN	European Standard (Euronorm)
ISO	International Organization for Standardization
TSI	Technical Specification for Interoperability

Table 2 — Symbols

Symbol	Designation	Unit
Hz	unit of frequency	Hertz
K	unit of temperature	Kelvin
LRV	Light Reflectance Value	point
lx	unit of illuminance	lux
m	unit of length	metre
mm	unit of length	millimetre
s	unit of time	second

5 Requirements and assessment

5.1 General

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

5.2 Infrastructure

5.2.1 Obstacle-free route

Obstacle-free route floor surfaces and ground surfaces shall have low reflective properties.

- The assessment shall be in accordance with EN ISO 2813:2014 for paints and varnishes, an achieved gloss level of 50 GU or lower shall be assumed to be compliant. For any other ground material and/or surface materials an assessment is not necessary.

5.2.2 Floor surfaces

All floor coverings, ground surfaces and stair tread surfaces shall be slip resistant.

- The assessment shall be according to international or national standards.

5.2.3 Transparent obstacles

- 1) Transparent obstacles on or along the main routes used by passengers, consisting of glass doors or transparent walls, shall be marked. These markings shall highlight the transparent obstacles.
 - Assessment of transparency shall be carried out with a Glass transparency meter, if transparency is greater than 50 % then the obstacle shall be marked.
 - Assessment of the markings shall be according to EN 16584-1:2025.
- 2) These markings are not required along transparent walls if passengers are protected from impact by other means — for example, by handrails or continuous benches.
- 3) Glass or other transparent/translucent materials that are coated or treated to reduce the light transmission shall have low reflective properties so as not to create a mirror effect (lighting is assumed to be the normal operating condition).

5.2.4 Lighting

- 1) The illuminance level of the external areas of the station shall be sufficient to facilitate way finding and to highlight the changes of level, doors and entrances.
 - Light levels shall be according to either ISO 21542:2021 or the EN 12464-2:2024 and method of assessment according to the EN 12464-2:2024.
- 2) The illuminance level along obstacle-free routes shall be adapted to the visual task of the passenger. Particular attention shall be paid to the changes of levels, ticket vending offices and machines, information desks and information displays.
 - i. From the accessible building entrance to the platform access point, the obstacle-free route shall be illuminated, measured at floor level, within the confines of the station building.

- Light levels shall be according to either ISO 21542:2021 or EN 12464-1:2021 (for indoor workplaces) or EN 12464-2:2024 (outdoor workplaces) and method of assessment according to the relevant part of EN 12464.
 - ii. The minimum lighting level shall be across the full width of the obstacle-free route.
 - The obstacle-free route shall be according to EN 16587:2025.
 - The measurement shall be taken at floor level.
 - iii. The minimum required light level on stairs and at the start and end of ramps, shall be measured at floor level.
 - Light levels shall be according to either ISO 21542:2021 or EN 12464-1:2021 (for indoor work places) or EN 12464-2:2024 (outdoor work places) and method of assessment according to the relevant part of EN 12464.
 - 3) The platforms shall have a minimum average illumination level measured at floor level.
 - Light levels shall be according to either ISO 21542:2021 or EN 12464-1:2021 (for indoor work places) or EN 12464-2:2024 (outdoor work places) and method of assessment according to the relevant part of EN 12464.
- Lighting should not produce glare or reflectance, see ISO 21542:2021 and methodology defined by CIE 130, 146/147.
- 4) Emergency lighting shall provide sufficient visibility for evacuation and for identification of firefighting and safety equipment
 - Assessment shall be according to ISO 21542:2021 and/or EN 1838:2024.

NOTE While the advantages of higher colour temperature, see Annex A, in aiding visual acuity and alertness are known and beneficial for partially sighted and elderly passengers, there is also general concern over the prolonged effect of exposure to blue light. Certain technologies, for example Light Emitting Diode (LED) have raised further concerns with the effect of what is termed 'blue light hazard'. When designing any lighting installation, consideration is to be given to the proximity to the light emitter, the directness of the light source, use of diffusers etc. in combination with the above information.

5.2.5 Visual information: signposting, pictograms, dynamic information

Visual information shall be easily readable in all lighting conditions when the station is operational.

- Lighting conditions shall be according to 5.2.4 of this document.
- Visual information readability shall be assessed according to EN 16584-1:2025 and EN 16584-2:2025.

5.2.6 Platform danger area and edge of platform

- 1) The danger area of a platform commences at the rail side edge of the platform and is defined as the area where passengers are not allowed to stand when trains are passing or arriving.
 - For the conventional rail system, this danger area shall be according to national Standards or Guidance.

- 2) The boundary of the danger area, furthest from the rail side edge of the platform, shall have visual marking and tactile walking surface indicators.
 - The tactile walking surface indicators shall be according to EN 16584-2:2025.
- 3) The visual marking shall be a contrasting, slip resistant, warning line with a minimum width of 100 mm:
 - The contrast shall be assessed according to EN 16584-1:2025
 - The slip resistance shall be assessed according to international or national standards
 - The width shall be measured horizontally and perpendicular to the track.
- 4) The material at the rail side edge of the platform shall be slip resistant.
 - The slip resistance shall be assessed for the walking surface according to international or national standards.

5.2.7 Level track crossings

If level track crossings are used as part of obstacle-free routes, or are the unique solution for all passengers, they shall have:

- 1) A visual warning line at the beginning and the end of the crossing surface that shall be:
 - i. Colour contrasting:
 - The assessment shall be according to EN 16584-1:2025
 - ii. Slip resistant:
 - The assessment shall be according to international or national standards
 - iii. A minimum width of 100 mm
- 2) A ground surface that is slip resistant (this excludes the rail head):
 - The assessment shall be according to international or national standards.

5.3 Rolling stock

5.3.1 Interior doors

- 1) If more than 75 % of a door's surface is made of a transparent material, it shall be clearly marked with visual indicators:
 - The assessment of transparency shall be carried out with a glass transparency meter, if transparency is greater than 50 % then the door surface shall be marked;
 - The assessment of the visual indicators shall be according to EN 16584-1:2025.
- 2) Glass or other transparent/translucent materials that are coated or treated to reduce the light transmission shall have low reflective properties so as not to create a mirror effect (lighting is assumed to be the normal operating condition).

5.3.2 Lighting

Minimum values of average illuminance in the passenger areas shall be according to EN 13272-1:2019, 4.1.2. Requirements relating to the uniformity of these values are not applicable for conformity with this standard. See Annex A for information on colour temperature for lighting.

5.3.3 Access/egress steps

All steps for access and egress shall be slip resistant.

- The slip-resistance shall be assessed for the walking surface of the step according to Clause 6 of this document.

5.4 Boarding aids

The surface of boarding aids (ramps, lifts, movable steps and bridging plates) for infrastructure and rolling stock shall be slip resistant.

- Slip-resistance shall be assessed for the walking surface of the boarding aid according to Clause 6 of this standard.

6 Assessment methodologies

6.1 Slip resistance test

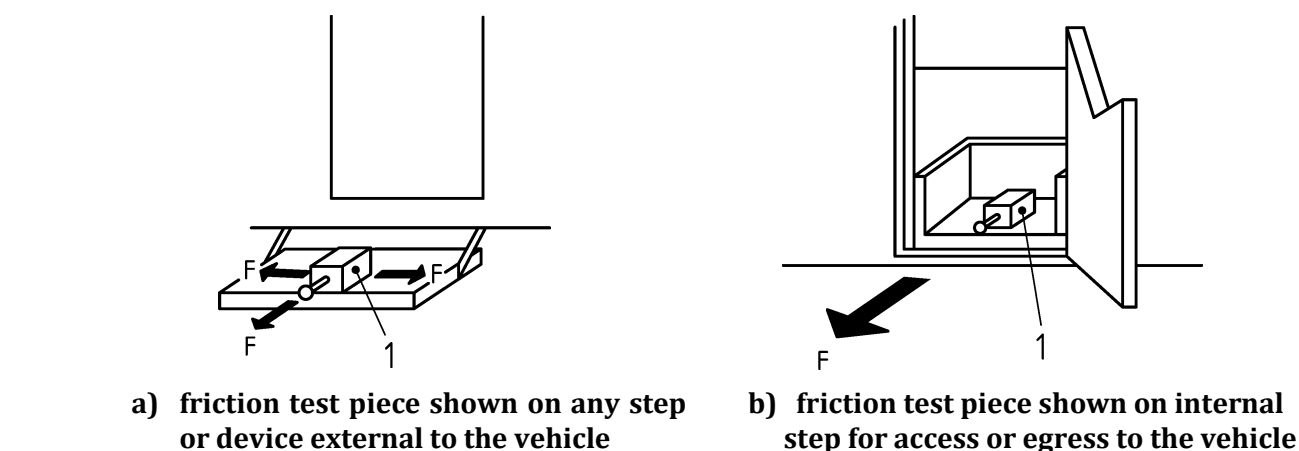
6.1.1 Principle

This test method is to determine the slip resistance of the surface of entrance steps, separate, attachable or integral, ramps and lifts. The slip resistance test methodology described below is a specific test for entrance steps, ramps and lifts and is an extract from EN 1645-1/EN 1646-1.

6.1.2 Preparation and procedure

- 1) Place the step, ramp or lift surface (separate, attachable or integral) in a horizontal position $\pm 2^\circ$ (3,5 %) (See Figure 1) if the step surface width is less than the length of the test piece, it is then permitted to use a representative sample of the surface material of a bigger size to conduct the test.
- 2) Carry out the test at an ambient temperature of $15\text{ }^\circ\text{C} \pm 10\text{ }^\circ\text{C}$.
- 3) Roughen the surface of the rubber sole of the friction test piece once before each test by placing it on a sheet of grade 60 to 63 emery paper and pull it, at a constant rate of $(150 \pm 10)\text{ mm/s}$, a distance of 300 mm across the surface of the emery paper.
- 4) Spray evenly the top surface of the tread to be tested with a minimum of 1 l of drinking water immediately prior to carrying out procedures 5) and 6).
- 5) Place the friction test piece, see Figure 2, upon the step.
- 6) Apply a horizontal force of 150 N for approximately 10 s, using a load cell, to the friction test piece during which there shall be no visually discernible movement of the friction test piece.
- 7) For devices external to the vehicle the test shall be carried out in three directions as shown in Figure 1a).
- 8) For internal step, ramp or lift surface(s) for access/egress to the vehicle tests shall be carried out in the direction as shown in Figure 1b).

- 9) The procedures 4), 5), 6), 7) and 8) in 6.1.2 shall be carried out as many times as necessary to test the complete surface of the device(s) or the tread(s) of the step(s).



Key

- 1 friction test piece (see Figure 2)
- F horizontal force of 150 N

Figure 1 — Slip resistance test

6.1.3 Expression of results

The vehicle shall be considered to have passed the test and for its step, ramp or lift surface(s) to be suitably slip resistant in accordance with the requirements if during the test as described in 6.1.2 there was no visually discernible movement of the friction test piece.

6.1.4 Test Report

A test report shall be prepared stating whether the device passed or failed the test. The report shall state the following,

- the sample;
- the Standard used (including its year of publication);
- the method used (if the standard includes several);
- the result(s), including a reference to the clause which explains how the results were calculated;
- any deviations from the procedure;
- any unusual features observed;
- the date of the test;

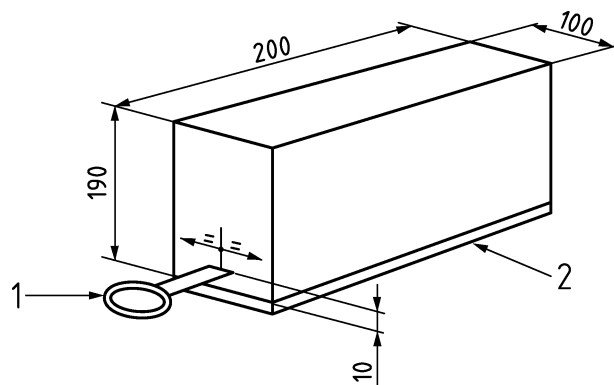
and if applicable:

- The approximate degree of movement of the friction test piece on the step, ramp or lift surface;
- The position of the friction test piece on the step, ramp or lift surface(s) when movement was discerned.

6.1.5 Friction test piece

The friction test piece comprises a 30 kg steel block, 200 mm long, 100 mm wide approximately 190 mm deep (depending on the density of the steel) with an 8 mm thick rubber sole bonded to its base. The rubber sole shall be as specified in ISO 4649:2024. A typical friction test piece is shown in Figure 2.

Dimensions in millimetres



Key

- 1 pulling hook securely attached
- 2 8 mm rubber sole

Figure 2 — Typical friction test piece

Annex A (informative)

Colour temperature for lighting

Table A.1 gives the indicative colour temperatures for lighting.

Table A.1 — Indicative colour temperatures for lighting

Temperature K	Source
1 700	match flame and oil lamps
1 850	candle flame
2 300	early morning sunrise
2 700 to 3 300	incandescent light bulb
3 400	studio lamps, photofloods, etc.
3 800	fluorescent lights
4 100	moonlight
5 000	warm / horizon daylight
5 500 - 6 000	cool daylight (12h00 midday), electric flash
6 420	xenon arc lamp
6 500	daylight, overcast
9 300	TV (analogue) screen

NOTE These temperatures are characteristic examples; considerable variation can be present.

Annex ZA (informative)

Relationship between this European Standard and the essential requirements of EU Directive (EU) 2016/797 aimed to be covered

This European Standard has been prepared under Commission implementing decision C(2023)1057 of 20.2.2023 on a standardization request to the European Committee for Standardization and the European Committee for Electrotechnical Standardization as regards products in support of Directive (EU) 2016/797 of the European Parliament and of the Council (M/591) to provide one voluntary means of conforming to (parts of) Essential Requirements of Directive (EU) 2016/797 of the European Parliament and of the Council of 11 May 2016 on interoperability of the rail system (recast) as specified in the relevant technical specifications for interoperability (TSI).

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZA.1 for PRM TSI confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding Essential Requirements of that Directive as specified in the technical specifications for interoperability (TSI), and associated EFTA regulations.

Table ZA.1 — Correspondence between this European Standard, Commission Regulation (EU) N° 1300/2014 concerning the technical specifications for interoperability relating to accessibility of the Union's rail system for persons with disabilities and persons with reduced mobility*

Essential Requirements of Directive (EU) 2016/797	Clauses of the Annex to the Technical Specification for Interoperability (TSI)	Clause/ subclauses of this European Standard	Comments
Section 3 of the Annex to the TSI indicates the correspondence between the TSI clauses and the Essential Requirements of Directive (EU) 2016/797	4.2.1.2. (3) Obstacle-free route	5.2.1	
	4.2.1.5. Highlighting of transparent obstacles	5.2.3	
	4.2.1.9. (1). Lighting	5.2.4 (1)	
	4.2.1.9. (2). Lighting	5.2.4 (2)	
	4.2.1.9. (3). Lighting	5.2.4 (3)	
	4.2.1.9. (4). Lighting	5.2.4 (4)	
	4.2.1.10. (5) Visual information: signposting, pictograms, printed or dynamic information	5.2.5	
	4.2.1.12. (1) Platform width and edge of platform	5.2.6 (1)	
	4.2.1.12. (7) Platform width and edge of platform	5.2.6 (3)	
	4.2.1.15. (3) Passenger track crossing to platforms	5.2.7	
	4.2.2.3.3. (6) Interior Doors	5.3.1	

	4.2.2.11.2. (1) Access/egress steps	5.3.3	
	5.3.1.2. (5) Platform ramps	5.4	
	5.3.1.3. (4) Platform lifts	5.4	
	5.3.2.8. (4) Boarding aids: movable steps and bridging plates	5.4	
	5.3.2.9. (5) Boarding aids: on board ramps	5.4	
	5.3.2.10. (2) Boarding aids: on board lifts	5.4	
<p>* As amended by Commission Implementing Regulation (EU) 2019/772 and Commission Implementing Regulation (EU) 2023/1694</p> <p>NOTE The Technical Specification for Interoperability (TSI) can refer to other clauses of this standard making the application of those clauses' mandatory. Possible references to such clauses are found in the Appendix A to the TSI.</p>			

WARNING 1 — Presumption of conformity stays valid only as long as a reference to this European Standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2 — Other Union legislation may be applicable to the products falling within the scope of this standard.

Bibliography

- [1] BS 8300-1, *Design of an accessible and inclusive built environment. External environment. Code of practice*
- [2] BS 8300-2, *Design of an accessible and inclusive built environment. Buildings. Code of practice*
- [3] EN 1645-1, *Leisure accommodation vehicles - Caravans - Part 1: Habitation requirements relating to health and safety*
- [4] EN 1646-1, *Leisure accommodation vehicles - Motor caravans - Part 1: Habitation requirements relating to health and safety*
- [5] Commission Regulation (EU) No 1300/2014, Technical Specification of Interoperability for Persons of Reduced Mobility as amended by Commission Implementing Regulation (EU) 2019/772 and Commission Implementing Regulation (EU) 2023/1694
- [6] CIE 130, *Practical methods for the measurement of reflectance and transmittance*
- [7] CIE 146/147, *CIE Collection on Glare*
- [8] ISO 7001, *Graphical symbols — Registered public information symbols*
- [9] ISO 22727:2007, *Graphical symbols — Creation and design of public information symbols — Requirements*
- [10] ISO 9186-1, *Graphical symbols — Test methods — Part 1: Method for testing comprehensibility*
- [11] ISO 9186-2, *Graphical symbols — Test methods — Part 2: Method for testing perceptual quality*
- [12] ISO 9186-3, *Graphical symbols — Test methods — Part 3: Method for testing symbol referent association*
- [13] EUROPEAN UNION RAILWAYS AGENCY. ¹ Reference document database (RDD) – Part 2 – National Reference Documents (NRDs), <https://rdd.era.europa.eu/RDD/> and The Single Rule Database (SRD) at <https://srd.era.europa.eu/home>

¹ ERA RDD-NRD & ERA SRD are the registers of national rules notified to ERA following the process of Directive (EU) 2016/797 article 14.

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