



SLOVENSKI STANDARD

SIST EN 14752:2015

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Nadomešča:

SIST EN 14752:2006

Železniške naprave - Vrata in zapiralni sistemi na železniških potniških vozilih

Railway applications - Bodyside Entrance Systems for rolling stock

Bahnanwendungen - Seiteneinstiegssysteme für Schienenfahrzeuge

Applications ferroviaires - Systèmes d'accès latéraux pour matériel roulant

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Ta slovenski standard je istoveten z: ~~SIST EN 14752~~ EN 14752:2015

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EUROPEAN STANDARD

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Railway applications - Body side entrance systems for rolling stock

Applications ferroviaires - Systèmes d'accès latéraux pour matériel roulant

Bahnanwendungen - Seiteneinstiegssysteme für Schienenfahrzeuge

This European Standard was approved by CEN on 23 November 2014.

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Foreword

This document (EN 14752:2015) 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of an identical text or by endorsement, at the latest by September 2015, and conflicting national standards shall be withdrawn at the latest by September 2015.

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 supersedes EN 14752:2005.

EN 14752:2015 includes the following significant technical changes with respect to EN 14752:2005:

Clause/Paragraph/ Table/Figure	Change
3.2 bridging plate	added
3.4 contrast	added
3.11 entrance system	added
3.12 first step	added
3.17 manual ramp	added
3.18 moveable step	added
3.19 palm operated	added
3.24 semi-automatic ramp	added
3.25 slip resistant	added
3.26 tactile	added
4.1.2.1 Entrance area – General	a maximum of 4 steps added
4.1.2.2.1 Internal steps for external access	number of steps and height updated
4.1.2.2.2 External steps	door sill and verification updated
4.1.2.3 Step surface	contrasting band; added
4.1.3 Track level access	EN 16116-1; added
4.1.6 Door windows	dimension 1 000 mm added , other details more precise
4.3.1.4 Passenger door button location	dimensions changed
4.3.1.7 Visual indications of door buttons	added
4.3.2.1 Quantity and location of emergency of emergency egress device	"900" mm; dimension changed
4.8 Reliability, availability, maintainability, safety (RAMS)	FTA top events and some rules added
4.11 Manual and semi-automatic ramps, Bridging plates	added
5.1.2 Release doors and steps	updated

5.1.5.2 Manual doors	Palm operated; added
5.1.6.2 Step out-of-service	added
5.2.1.3 Closing and opening warning	rewritten
5.2.1.4.2.2 Closing force	force over whole door travel defined
5.2.1.4.2.3 Kinetic energy	added
5.2.1.4.2.4 Non-contact obstacle detection	added
5.2.1.5 Anti drag	added
5.4 Moveable step obstacle detection	rewritten
A.2 Design of door buttons	updated
D.1 General	new issue
Annex I	added
Annex J	added
Annex K	added
Annex ZA	updated
NOTE: The technical changes referred to include the significant technical changes from the EN revised but are not an exhaustive list of all modifications from the previous edition.	

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(s), 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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This European Standard specifies the minimum requirements for construction and operation of railway passenger access systems to ensure:

- safe access and egress from passenger trains through body side doors and steps;
- usability for persons with reduced mobility;
- a minimum risk of injury to persons as a result of door and step operation;
- that the doors and moveable steps, ramps, bridging plates remain closed when the vehicle is in motion; and
- safe maintenance of the entrance systems.

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1 Scope

This European Standard applies to passenger body side entrance systems of all newly designed railway vehicles such as tram, metro, suburban, mainline and high-speed trains that carry passengers. The requirements of this European Standard also apply to existing vehicles undergoing refurbishment of the door equipment, as far as it is reasonably practicable.

This European Standard also specifies the requirements for testing of entrance systems.

This European Standard makes reference to manual and power operated entrance systems. For manual doors, clauses referring to power operation are not applicable.

This European Standard does not apply to the following:

- entrance systems for equipment access, inspection or maintenance purposes and for crew only use;
- doors on freight wagons; and
- doors or hatches specifically provided for escape under emergency conditions.

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.

DIN 5032-7, *Photometry; classification of illuminance meters and luminance meters*

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DIN 6164-1, *DIN colour chart; system based on the 2° standard colorimetric observer*

DIN 6164-2, *DIN colour chart; specification of colour samples*

EN 12663-1, *Railway applications — Structural requirements of railway vehicle bodies — Part 1: Locomotives and passenger rolling stock (and alternative method for freight wagons)*

EN 13032 (all parts), *Light and lighting — Measurement and presentation of photometric data of lamps and luminaires*

EN 13272, *Railway applications — Electrical lighting for rolling stock in public transport systems*

EN 14067 (all parts), *Railway applications — Aerodynamics*

EN 16116-1, *Railway applications — Design requirements for steps, handrails and associated access for staff - Part 1: Passenger vehicles, luggage vans and locomotives*

EN 45545-2, *Railway applications — Fire protection on railway vehicles — Part 2: Requirements for fire behaviour of materials and components*

EN 50121-3-2, *Railway applications — Electromagnetic compatibility — Part 3-2: Rolling stock - Apparatus*

EN 50125-1, *Railway applications — Environmental conditions for equipment — Part 1: Rolling stock and on-board equipment*

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EN 50126 (all parts), *Railway applications — The specification and demonstration of reliability, availability, maintainability and safety (RAMS)*

EN 50128, *Railway applications — Communication, signalling and processing systems — Software for railway control and protection systems*

EN 50153, *Railway applications — Rolling stock — Protective provisions relating to electrical hazards*

EN 50155, *Railway applications — Electronic equipment used on rolling stock*

EN 50215, *Railway applications — Rolling stock — Testing of rolling stock on completion of construction and before entry into service*

EN 60077-1:2002, *Railway applications — Electric equipment for rolling stock — Part 1: General service conditions and general rules (IEC 60077-1:1999, mod.)*

EN 61373, *Railway applications — Rolling stock equipment — Shock and vibration tests (IEC 61373)*

EN ISO 10140-2, *Acoustics — Laboratory measurement of sound insulation of building elements — Part 2: Measurement of airborne sound insulation (ISO 10140-2)*

EN ISO 12567-1, *Thermal performance of windows and doors — Determination of thermal transmittance by the hot-box method — Part 1: Complete windows and doors (ISO 12567-1)*

UIC 566:1990, *Loadings of coach bodies and their components*

UIC 660:2002, *Measures to ensure the technical compatibility of high-speed trains*

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3 Terms and definitions

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

3.1 access device
operating element used to unlock a locked door in order to allow for door opening from outside when the door is not available for normal operation

3.2 bridging plate
extendable device which is integrated into the vehicle as close as possible to the door threshold level, fully automatic and activated/controlled in conjunction with the door opening/closing sequences, to facilitate PRM (Persons with Reduced Mobility) and wheelchair access and which is not supported by the platform when extended

Note 1 to entry: The bridging plate retains its strength without support on the station platform.

3.3 central closing
powered closing of the door by remote command without intervention by the passenger

3.4 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)

[SOURCE: prEN 16584–1:2013, 3.5]

3.5**door**

body side panel available for passenger access and egress, including its components

3.6**door button**

device to initiate door opening or closing command

3.7**door/step out-of-service**

door or step which is locked and not available for use

3.8**door/step isolated**

door and/or step to which the pneumatic and/or electric power supply is isolated

3.9**door operation**

all door operating sequences

3.10**emergency egress device**

operating element used to unlock a locked door in order to allow for manual opening of the door from inside in case of an emergency

3.11**entrance system**

system to facilitate passenger entrance to vehicles including door, step/ramp/bridging plates and the related drive and control devices

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3.12**first step**

first step of a vehicle that a passenger can use to board or alight from a train

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Note 1 to entry: This will normally be the step that is closest to the platform edge. It may be a fixed or a moveable step.

[SOURCE: prEN 16586–1:2013, modified: Note 1 to entry shortened.]

3.13**leading edge**

edge of the door, leading during closing movement

3.14**local closing**

powered closing by intervention of a person or by a local automatic device

3.15**locked door**

closed door held closed by a mechanical device

3.16**manual door**

door that is closed or opened exclusively by hand power

EN 14752:2015 (E)**3.17****manual ramp**

device designed for the passage from one level to another, which is compatible with the vehicle and which is supported on the station platform when extended.

Note 1 to entry: Deployment by train crew or platform staff is manual.

Note 2 to entry: The purpose of the manual ramp is to facilitate wheelchair access.

Note 3 to entry: See prEN 16586–2:2013 for further details.

3.18**moveable step**

retractable device integrated into the vehicle forming a step with the threshold, fully automatic and activated/controlled in conjunction with the door opening/closing sequences to reduce the gap in width and height between vehicle and platform

Note 1 to entry: The moveable step retains its strength without support on the station platform.

3.19**palm operated**

operable by the palm or any part of the hand in its working position, not requiring fingers to be unclenched

[SOURCE: prEN 16585–1:2013, 3.10, modified to enable replacement of the term by its definition in the document]

3.20**power operated door system**

door system which operates doors in opening and closing direction by machine power

3.21**released door**

door in a state in which it may be opened by a member of the public or train crew by operating the door buttons

3.22**RIC-KEY**

key according to the agreement on mutual use of vehicles for persons and goods in international transport (RIC = International coach regulations)

Note 1 to entry: See Annex H.

3.23**routine test**

test to which each entrance system equipment is subjected during or after manufacturing

3.24**semi-automatic ramp**

device designed for the passage from one level to another, which is integrated into the vehicle and which is supported on the station platform when extended

Note 1 to entry: Deployment is locally activated and supervised.

Note 2 to entry: The purpose of the semi-automatic ramp is to facilitate wheelchair access.

Note 3 to entry: See prEN 16586–2:2013 for further details.

3.25**slip resistant**

rough or otherwise specifically formulated to maintain friction between the surface and a person's shoe or a mobility aid at an acceptable level in both wet and dry conditions

Note 1 to entry: Snow and ice are outside this definition therefore other special measures are to be taken for steps and platforms etc. that are exposed to these weather conditions.

[SOURCE: prEN 16584-1:2013, modified to enable replacement of the term by its definition in the document]

3.26**tactile**

appertaining to touch

Note 1 to entry: Tactile signs or controls may include raised pictograms, raised characters or Braille lettering.

Note 2 to entry: See also prEN 16584-1:2013.

[SOURCE: ISO 9241-910, 2.5, modified: Note to entry added]

3.27**technical specification**

agreement between manufacturer of the entrance system and buyer of that entrance system

3.28**train crew**

persons authorized to carry out the duties for door operation

3.29**type test**

test of one entrance system and its components to prove that the design meets the standard and the relevant specifications

3.30**unlocked door**

door with mechanical door locking released

4 Constructional requirements**4.1 Door design****4.1.1 Door throughway design****4.1.1.1 Minimum width**

Doors shall have an unrestricted clear usable width (1) of 800 mm minimum to allow unimpeded access and egress of passengers (Figure 1 shows two examples of doors). On trains where there is no step between the threshold of a dedicated wheelchair access door and the adjacent vestibule, that door shall have a minimum clear useable width of 1 000 mm when open.

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