



SLOVENSKI STANDARD

SIST EN 16286-1:2013

01-maj-2013

Železnice - Prehodni sistemi med vozili - 1. del: Glavne vrste uporabe

Railway applications - Gangway systems between vehicles - Part 1: Main applications

Bahnanwendungen - Übergangssysteme zwischen Fahrzeugen - Teil 1:
Hauptanwendungen

Applications ferroviaires - Système d'intercirculations entre véhicules - Partie 1 :
Applications générales

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Ta slovenski standard je istoveten z: **EN 16286-1:2013**

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ICS:

45.060.01 Železniška vozila na splošno Railway rolling stock in
general

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EUROPEAN STANDARD

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Railway applications - Gangway systems between vehicles - Part 1: Main applications

Applications ferroviaires - Systèmes d'intercirculation entre
véhicules - Partie 1: Applications générales

Bahnanwendungen - Übergangssysteme zwischen
Fahrzeugen - Teil 1: Hauptanwendungen

This European Standard was approved by CEN on 16 February 2013.

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

Management Centre: Avenue Marnix 17, B-1000 Brussels

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EN 16286-1:2013 (E)**Foreword**

This document (EN 16286-1:2013) 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of an identical text or by endorsement, at the latest by September 2013, and conflicting national standards shall be withdrawn at the latest by September 2013.

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(s).

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

This series of European Standards EN 16286, *Railway applications — Gangway systems between vehicles*, consists of the following parts:

- *Part 1: Main applications*
- *Part 2: Acoustic measurements*

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Introduction

The railway system requires technical rules for train concepts with flexible connections which allow passage from one vehicle to the next vehicle (or between vehicle modules). This standard describes main requirements for the design and validation of gangway systems.

The requirements set out in this standard are based on long-term existing practices and procedures developed and currently in use by railway undertakings and industry. The application of these systems has changed over the years.

For many years the majority of gangway systems consisted of rubber tubes pressed together when coaches were coupled. This solution is standardized in UIC leaflet 561 with the aim to reconfigure train sets. Main requirements of this leaflet have been incorporated in this standard as Annex A.

UIC Leaflet 561 is to date the only reference document available, but does not cover project specific solutions, which have been developed for each train set; for example, for multiple units, metros or tramways. The aim of EN 16286-1 is to close this gap and to cover the complete range of gangway systems.

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EN 16286-1:2013 (E)**1 Scope**

This European Standard defines the technical and safety requirements applicable to gangway systems used in all railway vehicles such as tram, tram trains, coaches, metro, suburban, main line and high speed trains that carry passengers. A gangway system gives comfortable passage from one vehicle to the other and consists of a flexible component which allows relative movement between vehicles.

It also defines:

- the requirements for the safety for passengers and/or staff in the gangway while the train is running;
- the assessment methods as well as pass/fail criteria for gangways installed on vehicles.

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

EN 15551, *Railway applications — Railway rolling stock — Buffers*

EN 15663, *Railway applications — Definition of vehicle reference masses*

EN 15566, *Railway applications — Railway rolling stock — Draw gear and screw coupling*

EN 16286-2, *Railway applications — Gangway systems between vehicles — Part 2: Acoustic measurements*

EN 45545 (all parts), *Railway applications — Fire protection on railway vehicles*

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

EN ISO 6946, *Building components and building elements — Thermal resistance and thermal transmittance — Calculation method (ISO 6946)*

3 Terms and definitions

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

3.1 nominal geometric dimensions

Note 1 to entry: Nominal dimensions are defined on straight level track, vehicle suspension in nominal condition, and the mass in working order.

3.1.1 length

distance between mounting interfaces of gangways at vehicle ends

3.1.2 width

distance between lateral inner face of the passage

Note 1 to entry: The width is often measured at shoulder height.

Note 2 to entry: See Figure 1.

3.1.3 horizontal clearway

unobstructed distance between lateral inner face of the bottom area of the gangway system

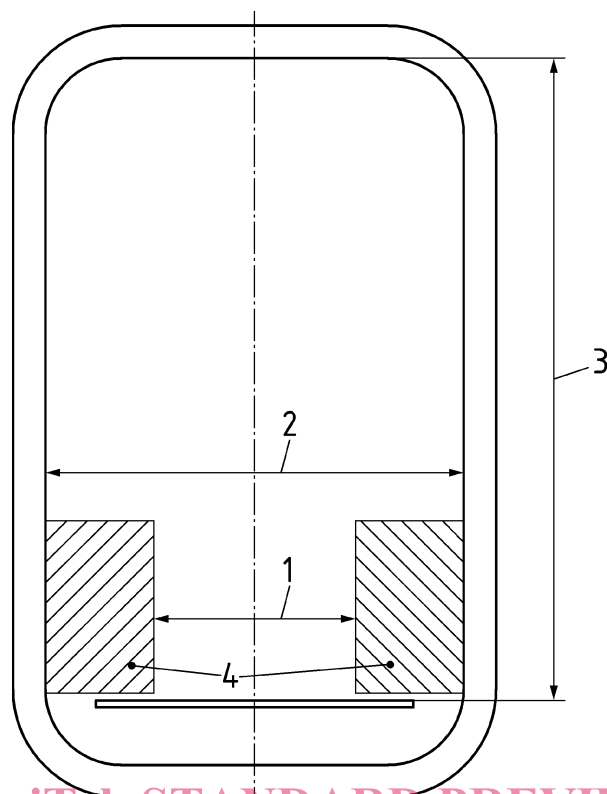
Note 1 to entry: See Figure 1. (standards.iteh.ai)

3.1.4 vertical clearway

unobstructed distance between gangway floor level to the top of the passage (panel, ceiling, etc.)

Note 1 to entry: See Figure 1.

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Figure 1 — Clearway – design example

3.1.5

outer gangway width

overall outer width of the gangway

3.1.6

outer gangway height

overall outer height of the gangway

3.1.7

vehicle floor height

distance between floor level of the vehicle and top of the rail

3.1.8

gangway floor height

distance between floor level of the gangway and top of the rail

3.1.9

reference point

intersection of floor level with vehicle centre plane at the vehicle end

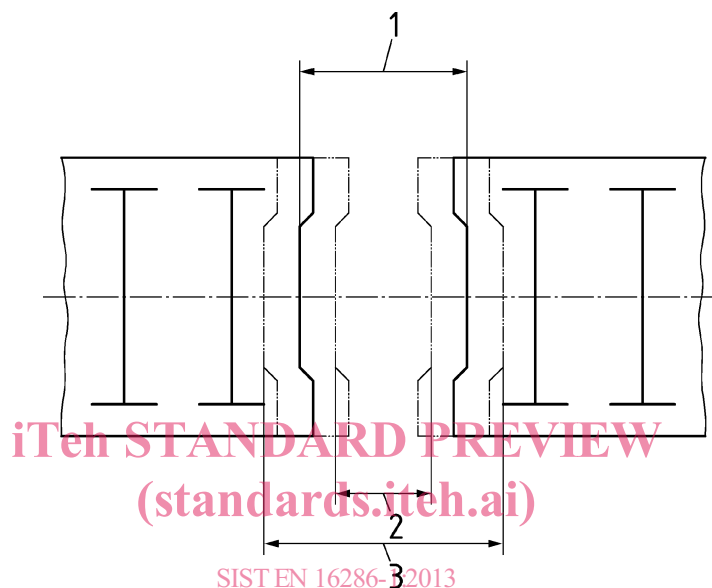
3.2 relative movements of the vehicles

Note 1 to entry: Real relative movements of the vehicles might consist of any combination of the movements defined in 3.2.1 up to and including 3.2.7.

3.2.1 longitudinal displacement

deflection of the length of the gangway in longitudinal direction on track

Note 1 to entry: See Figure 2.



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 Longitudinal displacement is generated, for example, by buff and draw of the connected coupling system.

Key

- 1 length
- 2 compressed length x_b
- 3 extended length x_d

Figure 2 — Longitudinal displacement

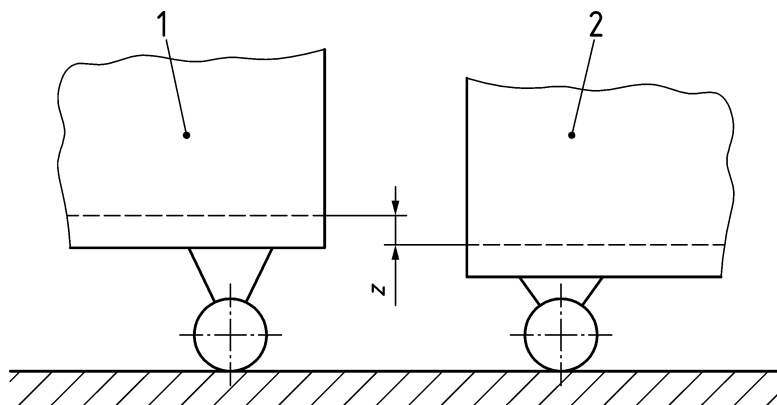
3.2.2

vertical displacement z

vertical distance between reference point of vehicle 1 and reference point of vehicle 2

Note 1 to entry: See Figure 3.

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**Key**

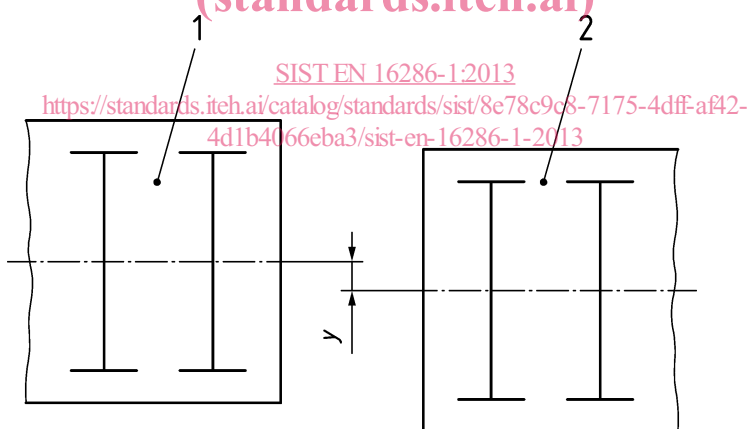
- 1 vehicle 1
- 2 vehicle 2
- z vertical displacement

Figure 3 — Vertical displacement**3.2.3****lateral displacement y**

lateral distance between reference point of vehicle 1 and reference point of vehicle 2

Note to entry:

See Figure 4. **iTeh STANDARD PREVIEW**
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**Key**

- 1 vehicle 1
- 2 vehicle 2
- y lateral displacement

Figure 4 — Lateral displacement