ICS 45.060.10 SLOVENSKÁ TECHNICKÁ NORMA November 2019

STN	**Železnice Kabína rušňovodiča Časť 4: Usporiadanie a prístup**	**STN EN 16186-4 28 7223**

Railway applications - Drivers cab - Part 4: Layout and access

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 10/19

Obsahuje: EN 16186-4:2019

129435

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 16186-4

May 2019

ICS 45.060.10

English Version

Railway applications - Driver's cab - Part 4: Layout and access

Applications ferroviaires - Cabine de conduite - Partie 4 : Aménagement et accès

Bahnanwendungen - Führerraum - Teil 4: Gestaltung und Zugang

This European Standard was approved by CEN on 15 April 2019.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. EN 16186-4:2019 E

Contents

Page

European foreword

This document (EN 16186-4:2019) 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of an identical text or by endorsement, at the latest by November 2019, and conflicting national standards shall be withdrawn at the latest by November 2019.

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 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 2008/57/EC, see informative Annex ZA, which is an integral part of this document.

EN 16186, *Railway applications — Driver’s cab*, consists of the following parts:

— *Part 1: Anthropometric data and visibility*;

— *Part 2: Integration of displays, controls and indicators*;

— *Part 3: Design of displays*;

— *Part 4: Layout and access*;

— *Part 5: External visibility for tram vehicles*[1];

— *Part 6: Working environment in tram vehicles*[1];

— *Part 8: Tram vehicle layout and access*[1].

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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Under development.

Introduction

This part of the EN 16186 series addresses design rules and requirements for the layout and design of the driver's cab considering operational requirements for train driving, shunting and related preparatory work as far as driver’s cab interfaces are concerned. It provides current cab design principles and considers latest available research findings provided by the European Research project EUDD+ [36].

If a requirement contains an option, the choice of this option is purely up to the applicant.

1 Scope

This document gives design rules and requirements in order to ensure proper access, lighting, seating and exit of the driver's cab. The different dimensions are based on the anthropometric data defined in EN 16186-1. The corresponding assessment methods are also included in this standard. It covers the following aspects:

— dimension and interior layout;

— door access, steps, floor characteristics;

— seats dimension and clearance;

— interior cab lighting;

— emergency exit;

— marking and labelling.

This part of the EN 16186 series applies to driver's cabs of Electrical Multiple Unit (EMU), Diesel Multiple Unit (DMU), Railcars, Locomotives and Driving trailers (Driving Coaches).

NOTE 1 This European Standard applies to rolling stock in the scope of Directive 2008/57/EC [6].

This part of the EN 16186 series applies to driver's desks installed on the left, on the right, or in a central position in the driver's cab. Due to cab space and resulting desk integration constraints, desk layout can vary.

NOTE 2 Due to railway systems constraints, the level of comfort and accessibility provided to the persons outside the anthropometric range defined in EN 16186-1 may vary. Usually the operators manage the potential restrictions, if the driver uses the full range of seat positions (as defined in this standard) combined with extreme body dimensions (as defined in EN 16186-1).

This document is not intended to be applicable for OTMs, tramways, metro and light rail vehicles.

NOTE 3 For OTMs, see EN 14033-1 [11] and EN 15746-1 [17].

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 894-3, *Safety of machinery — Ergonomics requirements for the design of displays and control actuators — Part 3: Control actuators*

EN 1005-3, *Safety of machinery — Human physical performance — Part 3: Recommended force limits for machinery operation*

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 14752:2015, *Railway applications — Body side entrance systems for rolling stock*

EN 15152, *Railway applications — Front windscreens for train cabs*

EN 15227, *Railway applications — Crashworthiness requirements for railway vehicle bodies*

EN 15273 (all parts), *Railway applications — Gauges*

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

CEN/TS 16165, *Determination of slip resistance of pedestrian surfaces — Methods of evaluation*

EN 16186-1:2014+A1:2018, *Railway applications — Driver's cab — Part 1: Anthropometric data and visibility*

EN 16186 (all parts), *Railway applications — Driver's cab*

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

EN 45545-4:2013, *Railway applications — Fire protection on railway vehicles — Part 4: Fire safety requirements for rolling stock design*

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

EN ISO 3385, *Flexible cellular polymeric materials — Determination of fatigue by constant-load pounding (ISO 3385)*

EN ISO 7010:2012, *Graphical symbols — Safety colours and safety signs — Registered safety signs (ISO 7010:2011)*

ISO 2631-1, *Mechanical vibration and shock — Evaluation of human exposure to whole-body vibration — Part 1: General requirements*

ISO 3864-1:2011, *Graphical symbols — Safety colours and safety signs — Part 1: Design principles for safety signs and safety markings*

ISO 7001:2007, *Graphical symbols — Public information symbols*