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Railway applications - Driver's cab - Part 8: Tram  
vehicle layout and access



## EESTI STANDARDI EESSÕNA

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ICS 45.060.10, 45.140

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EUROPEAN STANDARD

**EN 16186-8**

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2022

ICS 45.060.10; 45.140

English Version

## Railway applications - Driver's cab - Part 8: Tram vehicle layout and access

Applications ferroviaires - Cabines de conduite - Partie  
8 : Aménagement et accès pour les tramways

Bahnanwendungen - Führerraum - Teil 8: Gestaltung  
und Zugang bei Straßenbahnfahrzeugen

This European Standard was approved by CEN on 13 March 2022.

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

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

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## European foreword

This document (EN 16186-8:2022) 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of an identical text or by endorsement, at the latest by October 2022, and conflicting national standards shall be withdrawn at the latest by October 2022.

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.

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 for heavy rail vehicles*
- *Part 4: Layout and access*
- *Part 5: External visibility for tram vehicles*
- *Part 6: Integration of displays, controls and indicators for tram vehicles*
- *Part 7: Design of displays for tram vehicles*<sup>1</sup>
- *Part 8: Tram vehicle layout and access*

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, Turkey and the United Kingdom.

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<sup>1</sup> To be published.

## 1 Scope

This document gives design rules and requirements in order to ensure proper access, lighting, seating and exit of driver's cabs. The different dimensions are based on the anthropometric data defined in EN 16186-5. The corresponding assessment methods are also included in this document. 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 document is applicable to vehicles operating on tram networks.

## 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 13272-2, *Railway applications - Electrical lighting for rolling stock in public transport systems - Part 2: Urban rail*

EN 15152, *Railway applications - Windscreens for trains*

EN 15227, *Railway applications - Crashworthiness requirements for rail vehicles*

EN 16186-5:2021, *Railway applications - Driver's cabs - Part 5: External visibility for tram vehicles*

EN 16186-6:—<sup>2</sup>, *Railway applications - Driver's cabs - Part 6: Integration of displays, controls and indicators for tram vehicles*

EN 17530, *Railway applications - Interior glazing for rail vehicles*

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<sup>2</sup> Under preparation: Stage at the time of publication: prEN 16186-6:2022.

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 7010:2020, *Graphical symbols - Safety colours and safety signs - Registered safety signs (ISO 7010:2019, Corrected version 2020-06)*

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*

### **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 <https://www.electropedia.org/>

#### **3.1**

##### **gloss**

optical property of a surface, characterised by its ability to reflect light specularly

[SOURCE: EN ISO 2813:2014, definition 3.1 modified, the Note 1 to entry has been deleted]

#### **3.2**

##### **primary controls**

controls having high importance and/or high frequency and/or prolonged periods of use

NOTE 1 to entry: Safety related controls are high importance controls.

#### **3.3**

##### **primary information**

information having high importance and/or high frequency of checking

NOTE 1 to entry: Safety related information is high importance information.