

Railway applications - Air conditioning for urban,  
suburban and regional rolling stock: Comfort  
parameters and type tests

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>See Eesti standard EVS-EN 14750:2024 sisaldab Euroopa standardi EN 14750:2024 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 18.12.2024.</p> <p>Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN 14750:2024 consists of the English text of the European standard EN 14750:2024.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 18.12.2024.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
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EUROPEAN STANDARD

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English Version

## Railway applications - Air conditioning for urban, suburban and regional rolling stock: Comfort parameters and type tests

Applications ferroviaires - Conditionnement de l'air  
pour matériel roulant urbain, de banlieue et régional :  
Paramètres de confort et essais de type

Bahnanwendungen - Luftbehandlung in  
Schienenfahrzeugen des städtischen-, Vorort- und  
Regionalverkehrs - Behaglichkeitsparameter und  
Typprüfungen

This European Standard was approved by CEN on 27 October 2024.

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## European foreword

This document (EN 14750:2024) 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of an identical text or by endorsement, at the latest by June 2025, and conflicting national standards shall be withdrawn at the latest by June 2025.

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 14750-1:2006 and EN 14750-2:2006.

In comparison with the previous edition, the following technical modifications have been made:

- Creation of 3 vehicle categories (Urban, Suburban and Regional) to define the corresponding performances;
- Definition of normal and extended ranges of exterior temperatures with corresponding performances;
- Usage of an index Comfort Level (CL) to provide a global view of the climatic comfort;
- Improvement of the validation process with new regulation tests. The purpose is to assess the quality of the regulation of the system;
- Introduction of the process of validation of the climatic comfort parameters by simulations.

This document has been prepared under a Standardization Request addressed to CEN by the European Commission.

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.

## 1 Scope

This document establishes thermal comfort parameters for areas accessible to passengers and staff on railway vehicles.

This document also specifies conditions, performance values and the comfort parameter validation methods.

This document is applicable to urban (metro, tramway), suburban and/or regional vehicles equipped with cooling and/or heating/ventilation systems. This document does not apply to main line vehicles and driver's cabs which are considered in separate Standards.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all 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 ISO 7726:2001, *Ergonomics of the thermal environment — Instruments for measuring physical quantities (ISO 7726:1998)*

EN ISO 19659-1:2023, *Railway applications — Heating, ventilation and air conditioning systems for rolling stock — Part 1: Terms and definitions (ISO 19659-1:2017)*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 19659-1:2023 and the following apply.

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

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

NOTE Refer to informative Annex R for more information on abbreviations.

### 3.1 air conditioning installation

all equipment of Heating Ventilation Air Conditioning (HVAC) system involved to reach the thermal comfort

Note 1 to entry: Refer to EN ISO 19659-1:2023.

### 3.2 interior temperature setpoint

$T_{ic}$   
target value for interior air temperature

### 3.3 normal interior temperature setpoint

$T_{ic,0}$   
target value for interior air temperature according to regulation curve

Note 1 to entry: Refer to 9.2 and normative Annex B.