

ICS 45.060
CCS S 40



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 44991-2025

**Railway applications - Testing of rolling stock on completion of
construction and before entry into service**
(English Translation)

Issued on: February 28, 2025

Implemented on: September 1, 2025

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

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References

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is modified to adopt IEC 61133:2016 "Test methods for rail transit rolling stock before it is manufactured and put into use" Law".

Compared with IEC 61133:2016, this document has more structural adjustments. The structural number changes between the two documents are shown in the table below.

See Appendix A.

This document has many technical differences compared to IEC 61133:2016.

A single line (I) is used to mark the differences. A list of these technical differences and their reasons is given in Appendix B.

The following editorial changes were made to this document.

--- Deleted all notes in the text that are only for the EU (see Chapter 1, Chapter 2, 4.1, 8.2.2.1, 8.2.2.4, 8.3.2, 8.3.3, 8.4.2, 8.5.2, 8.5.3, 8.7.1, 8.11.2.1, 8.15.5, 8.15.6.1, 8.18.2, 8.18.3, 8.18.4, 8.19, 8.20, 9.4.1.2, 9.4.1.5, 9.4.1.7, 9.9.1.2, 9.10.2, 9.12, 9.14, 9.17.1);

--- Deleted "Note. For international requirements of a) to d), see UIC518" (see 9.9.1.2 of IEC 61133:2016);

--- Deleted the description of the relevant EU directives (see Appendix B of IEC 61133:2016);

--- Changed references.

1 Scope

This document specifies the test requirements, types, conditions and methods for rolling stock before it is put into use after it is manufactured.

This document applies to locomotives, passenger cars, freight cars, electric multiple units (hereinafter referred to as "EMU"), urban (suburban) railways and urban rail transit.

Transportation (hereinafter referred to as "urban rail and urban rail transit") vehicles, other models can be used for reference.

This document does not apply to self-propelled vehicles such as rail cars, railway rescue cranes, track laying and bridge erection machines (groups), overhead line operation vehicles, Vehicles, large road maintenance machinery, etc.

Note 1: The applicable part of this document is determined according to the type of rolling stock

(such as locomotive, passenger car, freight car, EMU, urban rail and urban rail transit vehicles, etc.).

NOTE 2 The scope of application of this document does not include rail vehicles, road vehicles and railway rolling stock used in the construction and maintenance of railway infrastructure.

NOTE 3 This document does not cover tests performed on components or equipment prior to assembly of rolling stock.

This document is used for the following, as applicable.

- Generator sets installed on rolling stock for auxiliary purposes;
- Electric drive systems for trolleybuses or similar rolling stock;
- Control and auxiliary equipment for rolling stock with non-electric traction systems;
- Rolling stock guided, suspended or electrically driven by a system that does not use wheel-rail adhesion.

2 Normative references

The contents of the following documents constitute essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

GB 146.1 Standard gauge railway rolling stock gauges GB T1402-2010 Voltage of rail transit traction power supply system (IEC 60850:2007, MOD) GB/T 3048.8 Test methods for electrical properties of wires and cables Part 8: AC voltage test GB/T 3449 Acoustics Measurement of interior noise of rail vehicles (GB/T 3449-2011, ISO 3381:2005, MOD) GB/T 5111 Acoustics Measurement of noise emitted by railway vehicles (GB/T 5111-2024, ISO 3095:2013, MOD) GB/T 5599 Specification for evaluation and test of dynamic performance of rolling stock GB/T 5601-2018 Rules for inspection and testing of railway freight cars GB/T 6769 Rules for the layout of locomotive cabs GB/T 7928 General technical requirements for subway vehicles GB/T 12818-2021 Rules for inspection and testing of railway passenger cars after assembly GB/T 16927.1 High voltage test technology Part 1: General definitions and test requirements GB/T 17626.2 Electromagnetic compatibility test and measurement technology Electrostatic discharge immunity test GB/T 18481 Power quality temporary overvoltage and transient overvoltage GB/T 20626.1 Special environmental conditions for plateau electrical and electronic products Part 1: General technical requirements GB/T 21413 (all parts) Electrical equipment for rail vehicles [IEC 60077 (all parts)] Note. GB/T 21413.1-2018 Rail transit rolling stock electrical equipment Part 1: General conditions of use and general rules (IEC 60077-1).