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

GB/T 44409.2-2026

Replacing GB/T 33193.1-2016, GB/T 33193.2-2016

**Heating, ventilation and air conditioning systems for rolling
stock - Part 2: Thermal comfort**

机车车辆空气调节系统 第2部分：舒适度

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is Part 2 of GB/T 44409 "Air Conditioning Systems for Locomotives and Rolling Stock". GB/T 44409 has already published the following parts.

---Part 1: Terms and Definitions;

---Part 2: Comfort;

---Part 3: Energy Efficiency this document supersedes GB/T 33193.1-2016 "Air Conditioning for Railway Vehicles - Part 1: Comfort Parameters" and GB/T 33193.2-2016.

Railway vehicle air conditioning - Part 2: Type testing. This document combines and revises GB/T 33193.1-2016 and GB/T 33193.2-2016.

Compared with the above standards, apart from structural adjustments and editorial changes, the main technical changes are as follows.

- a) The types of passenger trains have been increased (see Chapter 4);
- b) The equivalent solar radiation intensity for high-altitude areas (Kunming, Lhasa, Xining) has been modified (see 5.1.3, GB/T 33193.1-2016).
- c) Added internal design requirements (see 5.3);
- d) The internal set temperature was changed (see Chapter 6, Appendix A of GB/T 33193.1-2016);
- e) The requirements for indoor air temperature in the comfort zone have been changed (see 7.2, 6.1 and 8.2 of GB/T 33193.1-2016);
- f) Increased requirements for internal air temperature in the crew quarters, mechanic's room, and some ancillary spaces of the catering service area (see 7.6, GB/T 33193.1-2016, 6.2)
- g) The requirements for fresh air intake have been changed (see 7.8.1, 6.7.1 of GB/T 33193.1-2016);
- h) The requirements for air particulate filtration have been changed (see 7.8.5, 9.3 of GB/T 33193.1-2016);
- i) The requirements for vehicle interior pressure and pressure wave have been changed (see 8.6, 9.6 of GB/T 33193.1-2016);
- j) The noise requirement has been removed (see 9.4 of GB/T 33193.1-2016);
- k) Added relative humidity requirements for laboratories when the heat pump unit is in heating mode during winter (see 9.3.4.2);
- l) A door opening/closing cycle test method has been added (see 9.3.6);
- m) The test procedure for thermal insulation performance has been modified (see 9.4.2, 8.1.2 of GB/T 33193.2-2016);
- n) Added air conditioning operation test content (see 9.5, 9.6, 9.7, 9.8);
- o) Increased requirements for test data processing, calculation, and test reporting (see 9.9);
- p) The method for arranging micro-wind speed measuring points has been modified (see