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

GB/T 36972-2026

Replacing GB/T 36972-2018

**Performance technical specification for lithium-ion batteries for
electric bicycles**

电动自行车用锂离子蓄电池性能技术规范

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1 Scope

GB/T 36972-2026 is the Chinese national standard covering the e-bike battery's performance - the capacity and its retention over cycles, the discharge at low temperature, the charge acceptance and the consistency between cells in a pack that will be charged carelessly for years. It replaces GB/T 36972-2018 and has been in force since 1 September 2026, alongside the mandatory charger and charging pile standards of this batch. It was issued on 27 February 2026 and has been in force since 1 September 2026, replacing GB/T 36972-2018. The document is under the responsibility of the China National Light Industry Council. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document specifies the performance requirements for cells and battery packs of lithium- ion battery for electric bicycles, describes the corresponding test methods, and specifies the inspection rules, marking, packaging, transportation and storage. This document applies to cells and battery packs of lithium-ion battery for electric bicycles (hereinafter referred to as the cells and battery packs) that comply with the provisions of GB 17761.

2 Normative References

The contents of the following documents constitute indispensable clauses of this document through the normative references in the text. In terms of dated references, only the version with the specified date applies to this document. In terms of references without a specified date, the latest version (including all the modifications) is applicable to this document.

GB/T 191 Graphical Symbols Marking for Handling and Storage of Packages

GB/T 2828.1 Sampling Procedures for Inspection by Attributes - Part

1. Sampling Schemes Indexed by Acceptance Quality Limit (AQL) for Lot-by-lot Inspection

GB/T 2829 Sampling Procedures and Tables for Periodic Inspection by Attributes (apply to inspection of process stability)

GB/T 36945 Vocabulary of Lithium-ion Batteries for Electric Bicycle

GB 43854 Safety Technical Specification of Lithium-ion Battery for Electric Bicycle

3 Terms and Definitions

The terms and definitions defined in GB/T 36945 are applicable to this document.

4 Symbols

The following symbols apply to this document. C

2.2 h rate rated capacity (Ah). I

2.2 h rate discharge current, its value is equal to

0.5 C2 (A).

5 Requirements

5.1 General Principles The electrical performance of the battery packs shall meet the requirements for electric bicycles to operate on public roads. The safety requirements for cells and battery packs shall comply with the requirements of GB 43854.

5.2 Performance Requirements for Cells

5.2.1 I2(A) discharge When tested in accordance with the test method described in 6.3.1, the cell discharge capacity shall reach the rated capacity. 5.2.2 2I2(A) discharge When tested in accordance with the test method described in 6.3.2, the cell discharge capacity shall not be less than 95% of the rated capacity.

5.2.3 Cycle life When tested in accordance with the test method described in 6.3.3, the cell

cycle life shall not be less than 1,200 cycles.

5.3 Performance Requirements for Battery Packs

5.3.1 I2(A) discharge When tested in accordance with the test method described in 6.4.1, the battery pack discharge capacity shall reach the rated capacity. 5.3.2 2I2(A) discharge When tested in accordance with the test method described in 6.4.2, the battery pack discharge capacity shall not be less than 95% of the rated capacity.

5.3.3 Low temperature discharge When tested in accordance with the test method described in 6.4.3, the battery pack discharge capacity shall not be less than 80% of the rated capacity.

5.3.4 High temperature discharge When tested in accordance with the test method described in 6.4.4, the battery pack discharge capacity shall not be less than 95% of the rated capacity.

5.3.5 Charge retention and recovery Capability When tested in accordance with the test method described in 6.4.5, the battery pack charge retention capability shall not be less than 85% of the rated capacity, and the charge recovery capability shall not be less than 92% of the rated capacity.

5.3.6 High temperature charge retention and recovery capability When tested in accordance with the test method described in 6.4.6, the battery pack high temperature charge retention capability shall not be less than 85% of the rated capacity, and the high temperature charge recovery capability shall not be less than 90% of the rated capacity.

5.3.7 Charge recovery capability after long-term storage When tested in accordance with the test method described in 6.4.7, the battery pack discharge capacity shall not be less than 95% of the rated capacity.

5.3.8 Cycle life When tested in accordance with the test method described in 6.4.8, the battery pack cycle life shall not be less than 800 cycles.

5.3.9 Internal resistance When tested in accordance with the test method described in 6.4.9, the internal resistance of the battery pack shall not exceed the value specified by the manufacturer (the internal resistance information shall be marked on a suitable carrier).

5.3.10 Low temperature charge capacity When tested in accordance with the test method described in 6.4.10, the battery pack charge capacity shall not be less than 80% of the rated capacity. NOTE. applicable to battery packs for which the manufacturer claims a charging temperature below 0 °C.

5.3.11 Low temperature cycle life When tested in accordance with the test method described in 6.4.11, the battery pack cycle life shall not be less than 400 cycles. NOTE. applicable to battery packs for which the manufacturer claims a charging temperature below 0 °C.

6.1 Test Conditions

6.1.1 Environmental requirements Unless otherwise specified, the test shall be conducted under the following conditions. Temperature. (20 5) °C, relative humidity. not greater than 85%, atmospheric pressure. 86 kPa ~ 106 kPa.

6.1.2 Requirements for measuring instruments and equipment The accuracy of measuring instruments and equipment shall not be lower than the following requirements.

- a) Voltage measuring device. 0.5%;
- b) Current measuring device. 0.5%;
- c) Temperature measuring device. 2 °C;
- d) Time measuring device. 1 s;
- e) Dimension measuring device. 1 mm;
- f) Mass measuring device. 0.5%.

6.2 Sample Preparation

6.2.1 Standard cell charging Charge in accordance with the charging method provided by the manufacturer. If the manufacturer does not provide a charging method, the cell shall be charged using the following method. Before charging, discharge the cell at a constant current of $I_2(A)$ to the cut-off voltage. Under a test environment of (23 2) °C, charge at $0.4I_2(A)$. When the cell terminal voltage reaches the limited charge voltage, switch to constant voltage charging, until the charge current is less than or equal to $0.04I_2(A)$.

6.2.2 Standard battery pack charging Charge in accordance with the charging method provided by the manufacturer. If the manufacturer does not provide a charging method, the battery pack shall be charged using the following method. Before charging, the battery pack shall be discharged at a constant current of $I_2(A)$ to the cut-off voltage. Under a test environment of (23 2) °C, charge at $0.4I_2(A)$. When the terminal voltage of the battery pack reaches the limited charge voltage, switch to constant voltage charging, until the charge current is less than or equal to $0.04I_2(A)$.

6.3 Cell Performance Test

6.3.1 $I_2(A)$ discharge Under a test environment of (23 2) °C, after the cell is charged in accordance with the method described in 6.2.1, let it stand for

0.5 hours, and then, discharge at a constant current of $I_2(A)$ to the discharge cut-off voltage. Record the cell discharge time and calculate the discharge capacity. The above-mentioned cell discharge capacity test shall be repeated 3 times. When the discharge capacity meets the requirements of