

Translated English of Chinese Standard: GB/T22199-2008

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ICS 29.220.20

K 84

GB

National Standard of the People's Republic of China

GB/T 22199-2008

Sealed lead-acid battery used for electric moped

电动助力车用密封铅酸蓄电池

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Issued on: July 16, 2008

Implemented on: April 1, 2009

**Issued by: General Administration of Quality Supervision, Inspection and Quarantine;
Standardization Administration Committee.**

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Foreword

The main technical content of this Standard is formulated on the basis of JB/T 10262-2001 and takes consideration of actual situation of electric moped in China. The written format is according to GB/T 1.1-2000 "Directives for standardization - Part 1: Rules for the structure and drafting of standards".

This Standard was proposed by China Electrical Equipment Industrial Association.

This Standard shall be administered by National Standardization Technical Committee of Lead-acid Battery (SAC/TC 69).

Main drafting organizations of this Standard: Shenyang Institute of Battery, Zhejiang Tianneng Battery Co., Ltd., Zhejiang Chaowei Power Co., Ltd. Shaoxing Huitong Battery Co., Ltd., Jiangsu Huafu Group, Jiangsu Shuangdeng Group Co., Shanghai Haibao Special Power Co. Hangzhou Shanshui Battery Co., Ltd., Changzhou Huatian Electrical Co., Jiangsu Tongbo power Co., Kunming Tairuitong Power Technology Co., Ltd., and Xiamen Huatiangaoke Battery Technology Co., Ltd.

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Sealed lead-acid battery used for electric moped

1 Scope

This Standard specifies the technical requirements, test methods, inspection rules, signs, packaging, transportation and storage of sealed lead-acid battery used for electric moped.

This Standard applies to the electric bicycle, electric scooter, mini electric moped, golf cart that use sealed lead-acid battery (hereinafter referred to as battery) and battery group as main power source. The sulfuric acid electrolyte in the battery is not flowing, it is adsorbed in the microporous structure between electrodes or it appears in colloidal form.

This Standard does not apply to the lead-acid battery and battery group used for starting up, electric road vehicles, traction and so on.

2 Normative references

The provisions in following documents become the provisions of this Standard through reference in this Standard. For dated references, the subsequent amendments (excluding corrections) or revisions do not apply to this Standard, however, parties who reach an agreement based on this Standard are encouraged to study if the latest versions of these documents are applicable. For undated references, the latest edition of the referenced document applies.

GB/T 2900.11 Terminology of (secondary) cell or battery

JB/T 3076 Container for lead acid storage batteries

JB/T 7630 Separators for lead-acid batteries

3 Terms and codes

The following terms, definitions and codes apply to this Standard.

3.1

Rated capacity

precision of better than $\pm 1\%$.

6.2 Pretreatment before test

6.2.1 The test shall be conducted within three months after the production of the battery, all batteries shall be fully charged before test.

6.2.2 Full-charge of battery

6.2.2.1 In the environment of $25\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$, the battery shall be continuously charged for 20 h by the constant voltage of which the terminal voltage is $15.00\text{ V} \pm 0.10\text{ V}$ (current limit $0.6\text{ I}_2\text{A}$).

6.2.2.2 According to the full-charge methods provided by the manufacturer.

6.3 Inspection of appearance

INSPECT the appearance (cadmium indication) of battery visually.

6.4 Inspection of dimension

MEASURE the dimension of the battery, according to the structure and dimension shown in Figure 1 and Figure 2.

6.5 Inspection of mass

WIPE and CLEAN the surface of the battery, USE the weighing apparatus with compliant precision to weigh the battery mass.

6.6 Test of 2 hour-rate capacity

6.6.1 After full-charge of the battery, PLACE it at environment of $25\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$ for 1h ~ 24h. When the temperature of battery's surface is $25\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$, CONDUCT the capacity discharge test. DISCHARGE at $\text{I}_2\text{(A)}$ current continuously, STOP discharging when the battery's terminal voltage reaches 10.50 V. During the discharging process, the fluctuation of discharge current shall not exceed $\pm 1\%$ of the specified value.

6.6.2 MEASURE and RECORD the surface's initial temperature and terminal voltage value of the battery when it begins to discharge. MEASURE and RECORD the terminal voltage and surface's temperature of the battery once every 30min. At the end-period of discharge, MEASURE the terminal voltage at any time, and DETERMINE and RECORD the discharge continuous

1.06h, the unit is Volt (V).

6.18 Test of explosion-proof capability

6.18.1 The test shall be conducted after confirming that the safety measures are guaranteed.

6.18.2 OVERCHARGE the fully-charged battery at current $0.2 I_2(A)$ current for 1h.

6.18.3 Under the condition of non-stop charging, at the nearby of vent hole on top of the battery, USE 24V DC power supply (power of 500 W), 5A fuse (the distance between the fuse and the vent hole is 2mm~4mm) to repeatedly test 2 times.

7 Inspection rules

7.1 Classification of inspection

The inspection is divided into factory-exit inspection, periodic inspection and type inspection.

7.1.1 Factory-exit inspection, periodic inspection

The product going to be delivered, it shall be tested according to the items of factory-exit inspection and periodic inspection. The inspection items and quantity of samples are shown in Table 3.

7.1.2 Type inspection

When there encounters one of the following conditions, it shall be sampled to conduct type inspection. The product to be conducted for type inspection must be qualified by factory-exit inspection.

- a) Trial new product;
- b) When there are changes of product structure, process recipe or raw material;
- c) Inspection required by user;
- d) Inspection of government action.

When conducting type inspection for same series of battery, it usually chooses

it shall utilize product instructions or other appropriate methods to introduce the use conditions, precautions and prohibitions of battery, and indicate the following precautions when using:

- a) The battery must not be short-circuit;
 - b) The battery must not be placed in a sealed container;
 - c) The battery shall be kept away from fire source;
 - d) Precautions when charging;
 - e) Treatment method when the battery is broken;
 - f) It must not be dissected at will.
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