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

**GB/T 13337.1-2011**

Replacing GB/T 13337.1-1991

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**Stationary lead-acid batteries -- Vented types -- Part 1: Technical  
conditions**

固定型排气式铅酸蓄电池 第1部分：技术条件

**(English Translation)**

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## Foreword

GB/T 13337 "vented stationary lead-acid batteries" is divided into two parts.

--- Part 1. Technical conditions;

--- Part 2. specifications and dimensions.

This section is GB/T Part of 113,337.

This section drafted in accordance with GB/T 1.1-2009 given rules.

The partial substitution of GB 13337.1-1991 "anti-acid stationary lead-acid battery technology", with GB 13337.1-1991 phase Ratio, there is a change in the following main components.

--- Standard name changed to "exhaust stationary lead-acid batteries - Part 1. technical conditions";

--- Added "foreword";

--- The "code" to "terminology, symbols," and add content (see Chapter 3 and the 1991 edition Chapter 3);

--- Modify the "capacity" terms of technical requirements (see 4.6 and Version 4.6, 1991);

--- Delete "spark" Technical Requirements (1991 edition 4.7);

--- Increasing the "short-circuit current and the resistance level," the technical requirements (see 4.8);

--- Delete "self-discharge" Technical Requirements (1991 edition 4.8);

- Increase "charge retention ability," the technical requirements (see 4.9);
- The "anti-acidic can" to "anti-mist properties" (see 1991 edition 4.9 and 4.10);
- Increase "rapid charge-discharge cycle life" Technical requirements (see 4.13.3);
- Add "life" technical requirements (see 4.13.4);
- Increase the "resistance to mechanical damage capabilities" technical requirements (see 4.14);
- Delete "sealant Performance" Technical Requirements (1991 edition 4.14);
- Delete "shelf" technical requirements (1991 Version 4.15);
- Edit "test meter accuracy" (see 5.1 and 5.1 in 1991);
- The "pre-treatment before the battery test" to "test preparation" (see 5.2 and Version 5.2, 1991);
- Remove test methods "spark" (1991 Version 5.6);
- Remove Test Method (1991 Version 5.7) "self-discharge";
- Delete "sealant performance" Test Method (1991 Version 5.13);
- Remove test method "storage period" (1991 Version 5.14);
- Remove "Test Procedures" (1991 Version 5.15);
- Increasing the "short-circuit current and the resistance level test" method (see 6.5);
- Increase "charge retention ability test" method (see 6.6);
- Modify "constant overcharging life test" method (see 6.10.2);
- Increase "fast charge and discharge life test" method (see 6.10.3);
- Increase the "lifetime guarantee" the necessary conditions (see 6.10.4);
- Increase the "resistance to mechanical damage ability test" method (see 6.11);
- Edit "Inspection Rules" (see Chapter 7 and Chapter 6, 1991 edition);
- Remove Appendix A (1991 edition Appendix A);
- Remove Appendix B (1991 edition Appendix B).

This section uses redrafted law Reference IEC 60896-11:2002 "stationary lead-acid batteries - General requirements and test vented Party Law "prepared with IEC 60896-11:2002 non-equivalent degree of consistency.

This part of IEC 60896-11:2002 "stationary lead-acid batteries - vented General requirements and test methods" The main differences are as follows.

- Increasing the terms and definitions;
- Increase the "hermetic" Terms of technical requirements and test methods (see 4.5);
- Increase the "high current withstand capability" clause technical requirements and test methods (see section 4.7);
- Add "anti-mist performance" clause technical requirements and test methods (see section 4.10);
- Increase the "safety" clause technical requirements and test methods (see 4.11);
- Add "life" terms of technical requirements (see 4.13.3);
- Increase value "capacity test" clause 1 hour rate and 0.5 hour rate "termination voltage" (see 6.3.4);
- Edit "resistance to mechanical damage ability" clause, increase technical requirements (see 4.14) and test methods (see 6.11);
- The "float adaptability" clause into "test preparation" clause (see 5.2);
- Edit "cycle life" provisions of the technical requirements (see 4.13.1) and test methods (see 6.10.1);
- Edit "Inspection Rules" (see Chapter 7).

This part is proposed by the China Electrical Equipment Industrial Association.

The lead-acid batteries in part by the National Standardization Technical Committee (SAC/TC69) centralized.

This part mainly drafted by. Shenyang Institute of batteries, the CSIC Zibo Torch Energy Co., Ltd., Shandong Rui Yu Battery Ltd., Hebei Province Product Quality Supervision and Inspection Institute, Jiangsu double Deng Group Ltd., Shandong Sacred Sun Power Co., Ltd., Zhejiang days Battery Co., Ltd., AMD Power Co., Ltd., Zhejiang Haijiu Battery Co., Ltd., Shanghai Hai Bao special Power Co., Ltd. Hubei Camel Battery Co., Ltd., Anhui Province Product Quality Supervision and Inspection Institute.

## 1 Scope

GB/T 13337 in the provisions of this part of the stationary exhaust lead-acid battery (hereinafter referred to as battery) technical conditions, including technical Requirements, test methods, inspection rules, marking, packaging, transportation and storage tests.

This section applies to switching operation, security devices, signal systems, telecommunications equipment, computers, emergency lighting and a variety of DC Power batteries and batteries.

This section does not apply to fixed-type VRLA batteries and energy storage batteries.

## 2 Normative references

The following documents for the application of this document is essential. For dated references, only the edition date of this Part apply to Minute. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 2900.41 Electrotechnical terminology primary cells and batteries GB/T 13337.2 vented stationary lead-acid batteries - Part 2. specifications and dimensions IEC 60896-11:2002 Fixed exhaust lead-acid batteries - Part 11. General requirements and test methods

## 3 Terms, definitions and symbols

Terms and definitions GB/T 2900.41, as defined in applicable to this document.

The following symbols apply to this document.

Ce --- at the reference temperature (25 °C) the actual capacity of the battery condition, the unit is safe when (A · h);

Found --- CT battery capacity, discharge current I and the discharge time t of the product, when the safety unit (A · h);

C0.5 --- 0.5 hour rate nominal capacity, value of 0.35C10, when the security unit (A · h);

C1 --- 1 hour rate nominal capacity, value of 0.45C10, the unit is safe when (A · h);

C10 --- 10 hour rate nominal capacity, the unit is safe when (A · h);

I0.5 --- 0.5 hour rate discharge current value is 7I10, in amperes (A);

I1 --- 1 hour rate discharge current value is 4.5I10, in amperes (A);

I10 --- 10 hour rate discharge current value of C10/10, in amperes (A);

R --- charge retention capability;

Ua --- constant voltage charging single battery charge voltage, a value of 2.25 to 2.40 volts (V);

When Uf --- trickle charge single battery charging voltage value from 2.15 to 2.25 volts (V).

### 4.1.1 Battery constitution

Battery positive plates, negative plates, electrolyte, separator, battery slot, battery cover, acid-proof caps and other components. Battery slot with the battery cover