

ICS 29.260.20

K 35



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

中华人民共和国国家标准

GB 19854-2005

**General rules of explosion-proof techniques of
industrial trucks for explosive atmospheres**

爆炸性环境用工业车辆防爆技术通则

Issued on July 29, 2005

Implemented on July 01, 2006

**Issued by General Administration of Quality Supervision, Inspection
and Quarantine of the People's Republic of China**

**Standardization Administration of the People's Republic of
China**

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Foreword

All the technical contents in this standard are mandatory.

This standard is modified and developed in accordance with *Safety of Industrial Vehicles - Operation in Potentially Explosive Atmospheres - Use in Combustible Gas, Vapour, Mist and Dust* (English version) of European Standard EN1755:2000; in terms of technical contents, this standard is re-drafted in accordance with the requirement details of EN1755:2000; in terms of the compiling format, this standard complies with the provisions of *Directives for Work Guideline for Standardization --Part 1: Rules for the Structure and Drafting of Standards* of GB/T1.1—2000 and the *Work Guideline for Standardization—Part 2: Adoption for International Standards* GB/T 20000.2— 2001

When this standard was modified in relation to EN1755:2000 and re-drafted, considering the situation of China, it deleted the following contents: the preface, prologue, List of industrial vehicle type, contents related to restriction of breath shell and pressurized enclosure and relevant test in the structure requirements and annex ZA, and the chapter “List of All Kinds of Dangers” is edited as informative annex A of this standard. Such abridgment and modifications will not affect the use of the standard.

When this standard was modified in relation to EN1755:2000 and re-drafted, according to the design, manufacture, inspection and operating experience of the explosion-proof battery industrial vehicle, it modified the technical contents of some terms of EN1755:2000; relevant technical differences have been included into the main body of this standard and marked at the margin of the involved terms with vertical single line. In addition, the annex B (informative annex) “Explosion-proof Technical Requirements for Storage Battery Power Supply Device”, annex C (informative annex) “Scrapping and replacement of Storage Battery Power Supply Device” and annex D (informative annex) “Instruction Plate” are added; the added terms and contents (twelve) are all marked at the bottom of the page in the form of footnotes to state the source of the contents or the reasons.

When this standard is modified in relation to EN1755:2000 and re-drafted, in order to

facilitate comparison, we compiled annex E (informative annex) “Comparison List of the Chapter and Article Numbers of this Standard of EN1755:2000” and annex F (informative annex) “Technical Differences between this Standard and EN1755:2000 and the Reasons”.

Auxiliary verb used to express the terms in this standard shall conform to the provisions of annex E of GB / T 1.1-2000

Annex A, B, C, E and F in this standard are informative annexes; annex D and G are normative annexes.

This standard is proposed by China Electrical Equipment Industrial Association.

This standard is under the jurisdiction of the National Explosion-proof Electrical Equipment Standardization Technical Committee and responsible for explanation.

This standard is drafted by: Nanyang Explosion-proof Electrical Equipment Research Institute. Hangzhou Forklift Co., Ltd., Hengyang Main Workshop of Battery Car, Zhengjiang Xinchai Co., Ltd., etc.

The main drafters of this standard are: Zhang Xianli, Wang Jun, Fu Zheng, Jiang Jianxun, Wu Liangquan.

This standard was first issued in 2005.

This standard will replace JB 6199- 1992 *General Requirements for Technology of Industrial Vehicle of Explosion-Proof Battery*.

General rules of explosion-proof techniques of industrial trucks for explosive atmospheres

1 Scope

The method specifies safety requirements and measurements for industrial trucks including load handling device (hereinafter referred to as trucks) used in explosive atmospheres, as well as technical requirements for inspection of such safety requirements and measures.

Note 1: Explosive atmosphere refers to:

- a) atmosphere with explosive gases such as gas, water vapor, and mist, defined as 1st zone and 2nd zone respectively;
- b) Atmosphere with combustible dust, defined as 21st zone and 22nd zone respectively;

Note 2: Corresponding relation between truck grade and atmosphere, as shown in Annex G.

a) Grade II truck shall be used in atmosphere with explosive gases including gas, water vapor and mist, which can be further specifically divided into IIA, IIB, and IIC, according to mixture of gas in specific atmosphere. Grading shall be done in conformance with GB 3836.1-2000, Annex B.

b) IIB trucks are applicable to atmosphere specified for IIA, and IIC trucks are applicable to atmospheres specified for IIB and IIA, but not in atmospheres with water vapor or combustible gas containing carbon dioxide.

Note 3: Trucks shall meet requirements for gas, water vapor and mist, as well as requirements for mist, when used in gas mixture atmosphere.

Note 4: Truck comprises of forklift, load handling device, and applicable accessories, excluding of accessories attached to loading rack or forklift.

The method is applicable to design, manufacturing, and inspection of explosion-proof mechanism of industrial trucks used in explosive atmospheres.

The method is not applicable to trucks used in underground coal mine or trucks used in explosive dust atmosphere.

2 Normative references

The articles contained in the following documents have become this standard when they are quoted herein. For the dated documents so quoted, all the modifications (excluding corrections) or revisions made thereafter shall not be applicable to this Standard. For the undated documents so quoted, the latest editions shall be applicable to this Standard.

GB/T 1408.1-2006 Electrical strength of insulating materials - Test methods - Part 1: Tests at power frequencies (IEC 60243-1:1998, IDT)

GB/T 1410-1989 Methods of test for volume resistivity and surface resistivity of solid insulating materials (eqv IEC 60093: 1980)

GB 3836.1-2000 Electrical apparatus for explosive gas atmospheres--Part 1: General

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