

ICS 29.260.20

CCS K 35



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

GB/T 3836.27-2019

Explosive atmospheres -- Part 27: Electrostatic hazards -- Test

Issued on: December 31, 2019

Implemented on: July 1, 2020

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

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Foreword

The Explosive Environment is divided into several sections.

- Part 1. General requirements for equipment;
- Part 2. Equipment protected by flameproof enclosure "d";
- Part 3. Equipment protected by increased safety "e";
- Part 4. Equipment protected by intrinsically safe "i";
- Part 5. Equipment protected by positive pressure housing "p";
- Part 6. Equipment protected by liquid immersion "o";
- Part 7. Equipment protected by sand-filled "q";
- Part 8. Equipment protected by "n";
- Part 9. Equipment protected by potting type "m";
- Part 11. Classification test methods and data of gas and vapor substance characteristics;
- Part 12. Test method for characteristics of flammable dust substances;
- Part 13. Equipment repair, overhaul, repair and transformation;
- Part 14. Classification of places for explosive gas environments;
- Part 15. Design, selection and installation of electrical devices;
- Part 16. Inspection and maintenance of electrical installations;
- Part 17. Equipment protected by positive pressure room "p" and artificially ventilated room "v";
- Part 18. Intrinsically Safe Electrical System;
- Part 19. Fieldbus Intrinsic Safety Concept (FISCO);
- Part 20. Equipment with protection level (EPL) of Ga level;

- Part 21. Application of equipment production quality system;
- Part 22. Protective measures for optical radiation equipment and transmission systems;
- Part 23. Class I EPLMa equipment for gas and/or coal dust environments;
- Part 24. Equipment protected by special type "s";
- Part 25. Process sealing requirements between flammable process fluids and electrical systems;
- Part 26. Guidelines for electrostatic hazards;
- Part 27. Static electricity hazard test;

This section is Part 27 of "Explosive Environments".

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

This part uses the redrafting method to modify and adopt IEC 60079-32-2..2015 "Explosive Environment Part 32-2. Static Hazard Test".

The technical differences between this part and IEC 60079-32-2..2015 and their causes are as follows.

--- Regarding the normative references, this section has made adjustments with technical differences in order to apply China's technical conditions.

The situation is reflected in Chapter 2 "Regulatory Reference Documents", and the specific adjustments are as follows.

- * Replace IEC 60243-1 with GB/T 1408.1 equivalent to the international standard;
- * Replace IEC 60243-2 with GB/T 1408.2 equivalent to the international standard;
- * Replace IEC 60093 with GB/T 1410 equivalent to the international standard;
- * Replace IEC 60079-0 with GB 3836.1, which adopts the international standard;
- * GB/T 3836.12 equivalent to the international standard is used instead of ISO /IEC 80079-20-2 (the original international standard (IEC 61241-2-2 is replaced by ISO /IEC 80079-20-2);
- * Replace IEC TS60079-32-1 with GB/T 3836.26-2019 that adopts the international standard;
- * Replace IEC 60247 with GB/T 5654 equivalent to the international standard.

--- Specify the specific clauses of GB/T 3836.26-2019 that the test method qualification criteria in Chapter 4 can be based on, in order to facilitate the use.

The following editorial changes have been made in this section.

--- Modified the part number in the standard name;

--- Deleted Note 1.1 on European documents from 4.11.1.

This section is proposed by China Electrical Equipment Industry Association.

This part is under the jurisdiction of the National Explosion-proof Electrical Equipment Standardization Technical Committee (SAC/TC9).

This section was drafted. Nanyang Explosion-proof Electric Research Institute Co., Ltd., National Explosion-proof Electrical Product Quality Supervision and Inspection Center, CNOOC

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Jiyuan Mining Electric Appliance Co., Ltd., New Liming Technology Co., Ltd., Fujian Shangrun Precision Instrument Co., Ltd., Jiangyin Furengao

Technology Co., Ltd.

1 Scope

This section of the Explosive Environment specifies tests to avoid the danger of electrostatic ignition and electric shock caused by equipment, products and processes method.

This section applies to the assessment of electrostatic hazards, or used to develop electrical or non-electrical equipment standards or special product standards.

The standard test methods provided in this section are used to control static electricity, such as surface resistance, leakage resistance to ground, powder resistivity, liquid conductivity,

Capacitance, and evaluation of the ignitability of the triggered discharge. This section is used together with GB/T 3836 series standards.

Note. This section does not replace specific product standards and industrial application standards.

The latest technologies available in this section may deviate slightly from the requirements of other standards, especially in terms of testing climatic conditions. When this

When some of the requirements conflict with the requirements of GB 3836.1, in order to avoid that the previously certified equipment may need to be retested, the GB 3836.1

The requirements apply only to equipment specified in GB 3836.1. For other cases, the requirements of this section apply.

2 Normative references

The following documents are essential for the application of this document. For dated references, only the dated version applies to this article

Pieces. For undated references, the latest version (including all amendments) applies to this document.

GB/T 1408.1 Test method for electrical strength of insulating materials-Part 1. Test at power frequency (GB/T 1408.1-2016,

(IEC 60243-1..2013, IDT)

GB/T 1408.2 Test methods for electrical strength of insulating materials-Part 2. Additional requirements for applied DC voltage tests

(GB/T 1408.2-2016, IEC 60243-2..2013, IDT)

GB/T 1410 Test method for volume resistivity and surface resistivity of solid insulating materials (GB/T 1410-2006, IEC 60093.

(1980, IDT)

GB 3836.1 Explosive atmospheres Part 1. General requirements for equipment (GB 3836.1-2010, IEC 60079-0..2007,

MOD)

GB/T 3836.12 Explosive environment Part 12. Test method for characteristics of flammable dust substances (GB/T 3836.12-2019,

(ISO /IEC 80079-20-2..2016, IDT)

GB/T 3836.26-2019 Explosive atmospheres Part 26. Guidelines for electrostatic hazards (IEC TS60079-32-1..2013,

MOD)

GB/T 5654 Measurement of relative permittivity, dielectric loss factor and DC resistivity of liquid insulation materials (GB/T 5654-

(2007, IEC 60247..2004, IDT)

IEC 61340-2-1 Electrostatics-Part 2-1. Measurement methods-The ability of materials and products to dissipate electrostatic charges (Electrostatics-

Part 2-1.

Measurement methods-Ability of materials and products to dissipate static electric charge)

IEC 61340-2-3 Electrostatics-Part 2-3. Tests for determination of resistance and resistivity of solid planar materials used to prevent the accumulation of electrostatic charges