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

GB/T 3836.25-2019

**Explosive atmospheres -- Part 25: Requirements for process
sealing between flammable process fluids and electrical
systems**

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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 artificial ventilation "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 25 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 TS60079-40..2015 "Explosive Environment Part 40. Flammable Process Flow

Requirements for process seals between body and electrical system.

The following structural adjustments have been made in this section.

- Adjusted the order of terms.

The technical differences between this part and IEC TS60079-40..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 60079-0 with GB 3836.1, which adopts the international standard;

- * Replace IEC 60079-2 with GB/T 3836.5 that adopts the international standard.

- Instruction manual adds process sealing material and its compatibility with different process fluid substances to facilitate selection and

use.

The following editorial changes have been made in this section.

- Modified the part number in the standard name;
- Amended the note on flammable mist and suspended particles in the scope and moved to 3.1 as Note 2;
- Removed note 2 on verification to prevent process fluid leakage in 4.1;

--- Deleted Note 2 on other procedures in 4.3;

--- 4.7 added a note on security control measures.

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., State Administration of Work Safety, Chinese People's Liberation Army

Unit 63602, Navy Logistics Technology and Equipment Research Institute, Wanhua Chemical Group Co., Ltd., Sinopec Fuel Oil Sales Co., Ltd., China

Co., Ltd., New Liming Technology Co., Ltd., Zhengzhou Yongbang Environmental Technology Co., Ltd., Beijing Sanying United Petroleum Technology Co., Ltd.

1 Scope

If the process seal between the flammable process fluid and the electrical system fails, the process fluid will directly enter the field wiring system.

This section of the Explosive Environment sets specific requirements for the process seal between flammable process fluids and electrical systems.

This section specifies the assessment, manufacturing, and testing of single-process seal equipment, dual-process seal equipment, and additional secondary process seals.

Claim.

The requirements of this section do not apply to conduit sealing devices, cable entry devices and other involved in GB/T 3836 series or other standards

Wiring sealing method.

This section does not cover basic electrical safety and explosion-proof performance requirements, but may also apply to these devices. This section does not cover leaks.

Environmental impact.

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 3836.1 Explosive atmospheres Part 1. General requirements for equipment (GB

3836.1-2010, IEC 60079-0..2007,
MOD)

GB/T 3836.5 Explosive atmospheres Part 5. Equipment protected by positive pressure
housing "p" (GB/T 3836.5-2017,
(IEC 60079-2..2007, MOD)

3 terms and definitions

The following terms and definitions apply to this document.

Note. See Figure 1 for illustrations of different process sealing elements.

Figure 1 Equipment process sealing element