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

GB 3836.15-2024

Replacing GB/T 3836.15-2017

**Explosive atmospheres Part 15: Specification of electrical
installations design, selection and erection**

爆炸性环境 第15部分：电气装置设计、选型、安装规范

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1 Scope

GB 3836.15-2024 is the Chinese national standard on explosive atmospheres part 15: specification of electrical installations design, selection and erection, in the field of electrical engineering. It carries no /T suffix, which in the Chinese system means compliance is mandatory: a product or a practice within its scope has to meet it to be lawfully made, sold or carried out in China. It was issued on 24 July 2024 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 August 2025. Classification: ICS 29.260.20, CCS K35. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document specifies specific requirements for the design, selection, installation, initial inspection of electrical installations in or related to explosive atmospheres. This document applies to fixed, portable, mobile, individual electrical equipment. This document does not apply to. - Coal mines (the design, selection, installation of electrical equipment in coal mines can refer to this document); Note

1. For specific requirements, see the Coal Mine Safety Regulations. - Dust environments formed by inherently explosive substances and explosives or self-igniting substances (such as the manufacture and processing of explosives); - Medical rooms. Note

2. Appendix A provides additional guidance on the hazards of dust or flying catkins mixed with flammable gases or vapors.

2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, for dated references, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies to this document.

GB/T 3836.1 Explosive atmospheres - Part

3 Terms and definitions

The terms and definitions defined in GB/T 3836.1, as well as the following terms and definitions, apply to this document.

3.2 Hazardous areas

3.2.4 Hybrid mixture A mixture of flammable gas or vapor and flammable dust.

3.2.5 Maximum permissible surface temperature The maximum temperature that the surface of electrical equipment is allowed to reach in order to avoid ignition in actual operation.

Note. This definition applies only to dust and not to gas. Whether it is a dust cloud or a dust layer, its maximum permissible surface temperature depends on the type of dust, including the thickness of the dust layer and the safety factor applied (see 5.4.3).

3.6 Pressurized enclosure

3.6.1 Pressurized enclosure "p" An enclosure that keeps the internal shielding gas pressure higher than the external atmospheric pressure, to prevent the external atmosphere from entering.

4 General

4.1 General requirements The design, selection, installation of electrical equipment in hazardous areas shall comply with the provisions of this document.

4.2 Documents Verification dossier shall be established for all electrical equipments, indicating the information of the manager of the verification dossier, the storage location, etc., so that they can be checked at any time when needed. The verification dossier shall include at least the following information or documents.

4.4 Personnel competence and qualifications

4.4.1 General The design, selection, installation of electrical installations covered by this document shall only be carried out by professionally trained personnel whose knowledge, skills, qualifications shall comply with the provisions of this clause and shall be appropriate to the type of work performed. Personnel shall receive appropriate training and continuing education on a regular basis.

4.4.3 Qualifications

4.4.3.1 General Different explosion-proof categories require different explosion-proof knowledge. The personnel's ability shall be consistent with the category of explosion-proof technology that needs to be mastered; the specific ability requirements of relevant personnel shall be clarified.

4.4.3.4 Operators/technicians The operator/technician shall be able to provide proof of competence, to prove that he/she has met the knowledge and skills requirements specified

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4.4.2.3 related to the explosion-proof type and/or the type of equipment involved. At the same time, documents shall be provided to prove the ability to perform the following tasks.

4.4.4 Assessment The ability of the person in charge, operator, designer shall be assessed according to the time period required by the standard or the user, to fully prove that they have the following conditions.

5 Design and selection of electrical equipment

5.1 Document requirements In order to select electrical equipment suitable for hazardous areas, the following documents are required.

5.2 Design and selection based on EPL

5.2.1 General When new devices or equipment are used, the compliance of the equipment shall be verified in accordance with 4.3. The EPL in the area classification document shall follow the relationship between EPL and area in Table 1.

5.3 Design and selection according to equipment category Electrical equipment shall be selected according to Table 3.

5.4 Design and selection based on the ignition temperature of gas, vapor or dust and ambient temperature

5.5 Design and selection including external influences When the equipment needs to meet other environmental conditions, such as waterproof, dustproof, corrosion-resistant, low temperature, high temperature, high altitude, etc., other protection requirements shall be adopted and verified by relevant tests.

5.6.2 Rotating motor

5.6.3 Lamps The type or rating of the lamp shall be selected according to the required temperature group. "e" type lamps with fluorescent lamps and electronic ballasts shall not be used in places requiring temperature group T5 or T6, or places where the ambient temperature is greater than 60 °C.

5.6.4 Plug and socket terminals Plug and socket terminals shall not be installed in places requiring EPL Ga and Da. In places requiring EPLDB and Dc, the installation of the socket terminals shall not allow dust to enter the socket regardless of whether the plug is installed in the socket. The installation angle of the socket terminals shall not exceed 60° from the vertical line, meanwhile the opening shall be downward.

5.6.5 Batteries and battery packs Batteries and battery packs shall only be charged in non-hazardous areas, unless charging in hazardous areas is permitted in the certificate