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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB 46770-2025

Safety specification for explosion isolation of combustible dust

可燃性粉尘隔爆安全规范

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Standardization Administration of China

Table of Contents

Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting. Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed and is under the jurisdiction of the Ministry of Emergency Management of the People's Republic of China. Safety specifications for explosion-proof combustible dust

1 Scope

GB 46770-2025 is the Chinese national standard on safety specification for explosion isolation of combustible dust, in the field of environment and health protection, safety. 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 31 October 2025 by the State Administration for Market Regulation; Standardization Administration of China, and takes effect on 1 November 2026. Classification: ICS 13.230, CCS C67. 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 the technical requirements, installation, use, and maintenance requirements for explosion-proof flammable dust, and describes the corresponding

verification methods. This document applies to the design, selection, installation, commissioning, use, and maintenance of explosion-proof enclosures for combustible dust. This document does not apply to locations with underground coal mines, fireworks and firecrackers, explosives and strong oxidizers, or toxic or corrosive dust.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 15604-2024 Dust Explosion Prevention Terminology

GB 50058 Design Code for Electrical Installations in Explosive Atmospheres

3 Terms and Definitions

The terms and definitions defined in GB/T 15604-2024, as well as the following terms and definitions, apply to this document.

3.1 Explosion isolation The technology of extinguishing flames and preventing the spread of explosion through physical and chemical means after an explosion occurs, thus containing the explosion within a certain range. [Source: GB/T 15604-2024, 6.32]

3.2 An explosion protection system that activates the explosion-proof device in some way to achieve the explosion-proof function.

3.3 Components that directly act on flames and pressure waves to achieve explosion-proof function.

Note. Explosion-proof devices are components of explosion-proof systems.

3.4 An explosion-proof system that uses detectors and controllers to trigger explosion-proof devices, preventing the propagation of an explosion and containing it within a certain range.

Note. Detectors typically use optical sensors and/or pressure sensors.

3.5 An explosion-proof system that relies on the power of the shock wave from a dust explosion to trigger an explosion-proof device, preventing the explosion from propagating and containing the explosion within a certain range.

3.6 A valve that can close due to its own gravity to prevent the spread of an explosion when the airflow inside the pipeline is affected by a dust explosion.