

ICS 13.230
CCS C 67



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

GB/T 16429-2026

Replacing GB/T 16429-1996

**Determination of the minimum ignition temperature of dust
clouds**

粉尘云最低着火温度测定方法

Issued on: January 28, 2026

Implemented on: August 1, 2026

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

Table of Contents

1.Scope	1
2 Normative References	1
3.Terms and Definitions	1
4.Sample Selection and Preparation	1
4.1 Sample Selection	1
4.2 Sample Preparation	2
5.Experimental Apparatus	2
5.1 General Requirements	2
5.2 Heating Furnace	2
5.3 Compressed Air Dust Spraying System	2
5.4 Temperature Control and Recording System	2
7.Experimental Procedure	2
7.1 Test Parameters	2
7.2 Installation of the heating furnace	3
7.3 Calibration of the heating furnace	3
7.4 Measurement Procedure	3
8.Determination of minimum ignition temperature	3
9.Safety Measures	3
3 Appendix A (Normative) GODBERT-GREENWALD Furnace	5

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. This document replaces GB/T 16429-1996 "Determination of Minimum Ignition Temperature of Dust Clouds". Compared with GB/T 16429-1996, except for... Aside from structural adjustments and editorial changes, the main technical changes are as follows:

- a) The scope has been changed (see Chapter 1, Chapter 1 of the.1996 edition);
- b) The "Terminology and Definitions" have been changed (see Chapter 3, Chapter 2 of the.1996 edition);
- c) The section on "Sample Selection and Preparation" has been amended (see Chapter 4,

Chapter 3 of the.1996 edition);

d) The experimental setup was modified (see Chapter 5, Chapter 4 of the.1996 edition);

e) The criteria for determining fire have been revised (see Chapter 6, Chapter 6 in the.1996 edition);

f) The experimental procedures were changed (see Chapter 7, Chapter 5 of the.1996 edition);

g) Additional security measures have been implemented (see Chapter 9);

h) The contents of the test report have been changed (see Chapter 10, Chapter 8 of the.1996 edition);

i) The contents of the GODBERT-GREENWALD furnace have been added (see Appendix A). 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 China National Coal Association. This document was drafted by: China Coal Technology & Engineering Group Chongqing Research Institute Co., Ltd., Shandong University of Science and Technology, Beijing Institute of Technology, and Qingdao University of Technology. Universities and colleges including Dalian University of Technology, Chongqing University, Lanzhou University of Technology, Xi'an University of Science and Technology, Changzhou University, China Academy of Safety Science and Technology, and Gansu Province. Jingmei Energy Co., Ltd. The main drafters of this document are. Si Rongjun, Xue Shaoqian, Li Runzhi, Jiang Haipeng, Liu Xianfeng, Jia Quansheng, Huang Zichao, Zhu Pikai, and Yuan Mengqi. Wang Lei, Zhang Yutao, Zheng Kai, Liu Jie, Li Xiaochuan, Du Yuting, Yan Zheng, Li Zhenbao, Wang Gang, Zhao Jingqing, Li Pengliang, Li Zuoquan. This document was first published in.1996, and this is its first revision. Method for determining the minimum ignition temperature of dust clouds

1 Scope

GB/T 16429-2026 is the Chinese national standard covering the lowest surface temperature that will ignite a suspended dust - the number that decides the maximum allowable surface temperature of any equipment installed in a dusty area, and therefore its ATEX-equivalent marking. It replaces GB/T 16429-1996, revised together with GB/T 16428-2026 on minimum ignition energy. It was issued on 28 January 2026 and has been in force since 1 August 2026, replacing GB/T 16429-1996. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document specifies the sample selection and preparation, test apparatus, ignition

determination, test procedures, and minimum ignition temperature for dust clouds. Determining the fire temperature. This document applies to the determination of the minimum ignition temperature of dust clouds that rely on oxygen in the air to sustain their oxidation reaction. This document does not apply to explosives or other dust that can burn and explode without relying on oxidizing gases.

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

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 dust cloud In an atmospheric environment, a mixture of combustible dust and gaseous oxidant at a certain concentration suspended in the gaseous oxidant. [Source: GB/T 15604-2024, 3.3]

3.2 Dust cloud ignition Due to the energy transfer, the dust cloud (3.1) in the air undergoes the initial phenomenon of explosion. [Source: GB/T 15604-2024, 3.11]

3.3 The lowest heating temperature that causes a sudden temperature change (ignition) in a dust cloud when it is heated. [Source: GB/T 15604-2024, 4.15, with modifications]

4.1 Sample Selection

4.1.1 The samples used for testing should be representative of the dust state in the actual process, and the moisture content of the actual test samples should be measured and recorded. Particle size distribution.

4.1.2 For situations where the dust state cannot represent the actual process or the actual process is uncertain, it is advisable to select dust with a particle size of less than 75 μ m and a moisture content of less than 100%. More than 5% of the samples were tested.