

ICS 83.080.01

CCS G 31



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

GB/T 46836-2025

**Plastics - Reaction to fire - Test method for flame spread and
combustion product release from vertically oriented specimens**

塑料 对火反应 垂直方向试样的火焰蔓延和燃烧产物释放的试验方法

(English Translation)

Issued on: December 2, 2025

Implemented on: July 1, 2026

Issued by: State Administration for Market Regulation

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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 is modified to adopt ISO 21367:2007 "Films - Flame spread and release of combustion products from vertical specimens in response to fire".

Test methods.

Compared with ISO 21367:2007, this document has undergone the following structural adjustments.

---Move the warning message to the beginning of the main text;

---Sections 6.10.2 to 6.10.4 correspond to sections 6.10.1 to 6.10.3 in ISO 21367:2007,

with the addition of section 6.10.1;

---The "d)" in 9.3.4.3 corresponds to "d)" and "e)" in ISO 21367:2007, and the "e)" in 9.3.4.3 corresponds to...

The "f)";

---Appendix C corresponds to Appendix D in ISO 21367:2007;

---Appendix D corresponds to Appendix C in ISO 21367:2007.

The technical differences between this document and ISO 21367:2007, and the reasons therefor, are as follows.

---ISO 13943 (see Chapter 3) has been replaced with the normatively referenced GB/T 5907.1~5907.3 to adapt to my country's technical standards.

condition;

---ISO 5660-1 (see Chapter 6) has been replaced with the normatively referenced GB/T 16172 to adapt to my country's technical conditions;

---Change the footnote in Chapter 5 of ISO 21367:2007 to the main text (see 6.1);

---ISO 291 (see Chapter 7) has been replaced with the normatively referenced GB/T 2918 to adapt to my country's technical conditions;

---The normative reference to ISO 554 has been removed to accommodate my country's technical conditions;

---The calibration of the reference flow meter has been removed, increasing operability.

The following editorial changes have been made to this document.

---Note has been deleted (see 3.3);

---Added a mention in Appendix A (see Chapter 5);

---Added a mention in Appendix B (see Chapter 6);

---Added a mention in Appendix D (see 11.4);

---The symbol interpretation and units of TSP600s and SPR(t) in formula (A.3) have been changed (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 by the China Petroleum and Chemical Industry Federation.

This document is under the jurisdiction of the National Technical Committee on Plastics Standardization (SAC/TC15).

1 Scope

This document describes simulations of the heat release rate, ignition properties, and flame characteristics of plastics during the early stages of a fire, using "medium" sized specimens.

Methods for determining surface propagation, combustion droplets/particles, and smoke generation.

This document applies to factory production control, research and product development, as well as screening tests for medium and large-scale experiments; it is applicable to multiple...

A comparison of the fire-response properties of various materials, products, composite materials, or components under final use conditions.

This document applies to samples with a heat release rate of less than 10 kW.

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 2918 Standard environment for conditioning and testing of plastic specimens (GB/T 2918-2018, ISO 291:2008, MOD) GB/T 5907.1 Firefighting Glossary Part 1: General Terms GB/T 5907.2 Firefighting Glossary Part 2: Fire Prevention GB/T 5907.3 Firefighting Vocabulary Part 3: Firefighting and Rescue GB/T 16172 Test method for heat release rate of building materials (GB/T 16172-2007, ISO 5660-1:2002, IDT)

3 Terms and Definitions

The terms and definitions defined in GB/T 5907.1~5907.3 and the following terms and definitions apply to this document.

The unevenness of the surface is no more than 1 mm different from the flat surface.