Chinastandards.org

ICS 27.020
CCS J 90

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 4556-2025

Replacing GB/T 4556-2001

Reciprocating internal combustion engines - Fire protection

(English Translation)

Issued on: June 30, 2025 **Implemented on: January 1, 2026**

Issued by: State Administration for Market Regulation, China National Standardization Administration

Preview: page 1 of 4 shown, 9 in the full document. Complete English PDF, instant download:
https://chinastandards.org/standards/gb-t-4556-2025

Chinastandards.org

Table of Contents

Preface
1 Scope
2 Normative references
3 Terms and Definitions
4 Other regulations and requirements
5 General Principles
6 Basic fire protection level of internal combustion engines
6.1 General Principles
6.2 Instructions for Use
6.3 Internal Combustion Engine Fueling Regulations
6.4 Stop valve, drain valve and vent valve
6.5 Flammable liquid or gas pipelines
7 Special requirements for internal combustion engines
7.1 Fire resistance
7.2 Protection of electrical components (characteristic code. D)
7.3 Electrostatic protection (characteristic code. E)
7.4 Protection of high pressure fuel system (characteristic code. F)
7.5 Protection of high-pressure hydraulic system (characteristic code. G)
7.6 Drain valve (characteristic code. H)
7.7 Filters for flammable liquids or gases
7.8 High temperature surface (characteristic code. L)
7.9 Exhaust protection of internal combustion engines (characteristic code. M)
7.10 Exhaust after-treatment system protection (characteristic code. N)
7.11 Intake System Flame Control
7.12 Crankcase flame control
7.13 Flame control of power indicator valve (characteristic code. V)
7.14 Flexible connector for starting an internal combustion engine by direct air flow into the cylinder (characteristic code. W)
Appendix A (Informative) Special Requirements Communication Form
References

Preview: page 2 of 4 shown, 9 in the full document. Complete English PDF, instant download:
https://chinastandards.org/standards/gb-t-4556-2025

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document replaces GB/T 4556-2001 "Fire protection of reciprocating internal combustion engines". Compared with GB/T 4556-2001, except for the structural adjustment and in addition to editorial changes, the main technical changes are as follows.

a) Added relevant requirements for flammable gases (see 6.2, 6.3, 6.5.1, 7.1.1, 7.1.2, 7.4, 7.6 and 7.7);

b) Change the requirements for flammable liquid pipelines from special requirements to basic fire protection level requirements (see 6.5, 7.3 of the 2001 edition);

c) Added relevant requirements for marine internal combustion engines (see 7.1.1, 7.11.3 and 7.12.3);

d) Added additional requirements for flame retardant properties of plastic parts (see 7.1.3);

e) Added requirements for electrostatic protection (see 7.3);

f) Added exhaust after-treatment system protection requirements (see 7.10);

g) Changed the requirements for crankcase explosion proof valve flame control and flexible connectors for starting internal combustion engines using direct air into the cylinder (see 7.12.2 and 7.14 of the 2001 edition, 7.11.2 and 7.13 of the 2001 edition).

This document is equivalent to ISO 6826:2022 "Fire protection of reciprocating internal combustion engines".

1 Scope

This document specifies the requirements necessary to minimize the fire hazards posed by reciprocating internal combustion engines, their installed components and ancillary equipment.

If necessary, special requirements may also be put forward for reciprocating internal combustion engines for special purposes.

This document applies to reciprocating internal combustion engines (hereinafter referred to as "internal combustion engines") for land and marine use, but does not include reciprocating internal combustion engines used in explosive environments, road vehicles and aviation internal combustion engines.

This document also applies to internal combustion engines used to propel small craft and other applications for which no fire safety standards exist.

Preview: page 3 of 4 shown, 9 in the full document. Complete English PDF, instant download:
https://chinastandards.org/standards/gb-t-4556-2025

This document can also be used as a basis for application standards for internal combustion engines other than those listed above.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

ISO 7840 Small craft fire-resistant fuel hoses (Smalcraft-Fire-resistant fuelhoses) Note. GB/T 14652.1-2009 Small boat fire-resistant fuel hose (ISO 7840:2004, IDT) ISO 8846 Small craft electrical devices - Protection against ignition of surrounding flammable gases Note. GB/T 17726-1999 Protection of small boats' electrical installations against ignition of surrounding flammable gases (ISO 8846:1990, IDT) Note. GB/T 19310-2025 Permanently installed fuel systems for small boats (ISO 10088:2022, IDT) ISO 15540 Ships and offshore technology - Test methods for fire resistance of non-metallic hose assemblies and non-metallic expansion joints tors-Testmethods) Note. GB/T 21477-2024 Ships and offshore technology - Test method for fire resistance of non-metallic hose assemblies and non-metallic compensators (ISO 15540.

2016, IDT)

ISO 15541 Ships and offshore technology - Fire resistance test bench requirements for non-metallic hose assemblies and non-metallic compensators Note. GB/T 21476-2024 Ship and offshore technology - Fire resistance test bench requirements for non-metallic hose assemblies and non-metallic compensators (ISO 15541:2016,IDT)

3 Terms and Definitions

The following terms and definitions apply to this document.

Fire resistance

The ability of a sample to resist or prevent fire within a certain period of time.

NOTE: Under standard fire test conditions, typical criteria for evaluating fire resistance are fire integrity, fire stability and fire insulation.

Preview: page 4 of 4 shown, 9 in the full document. Complete English PDF, instant download:
https://chinastandards.org/standards/gb-t-4556-2025