

ICS 13.220.10

CCS C 84



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

GB 15308-2025

Replacing GB 15308-2006

Foam extinguishing agent

泡沫灭火剂

Issued on: August 1, 2025

Implemented on: August 1, 2026

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

Table of Contents

Foreword...	4
1 Scope...	6
2 Normative references...	6
3 Terms and definitions...	7
4 Classifications, codes and model specifications...	9
4.1 Classifications and codes...	9
4.2 Model specifications...	9
5 Requirements...	10
5.1 General requirements...	10
5.2 Technical requirements...	10
6 Test methods...	14
6.1 Sampling and temperature treatment...	14
6.2 Freezing point...	15
6.3 Freeze and thaw resistance...	16
6.4 Sediment...	16
6.5 Viscosity...	17
6.6 pH...	18
6.7 Surface tension, interfacial tension, and spreading coefficient...	19
6.8 Expansion and 25% drainage time of low-expansion foam concentrates...	20
6.9 Expansions of medium and high expansion foam concentrates...	24
6.10 Fire extinguishing performance...	29
7 Inspection rules...	37
7.1 Batches and groups...	37
7.2 Sampling...	37
7.3 Factory inspection...	37
7.4 Type inspection...	37
7.5 Determination of test results...	38
8 Packaging, transportation, marking, storage, and instructions for use...	38
8.1 Packaging and transportation...	38
8.2 Marking...	38
8.3 Storage...	39

1 Scope

GB 15308 is the product standard for foam extinguishing agents - the concentrates proportioned into water to fight flammable liquid fires. It sets the classification, codes and model designation, the requirements for the concentrate and for the foam it produces (expansion ratio, drainage time, extinguishing and burnback performance, freezing point, viscosity, sediment, corrosion and storage stability), the test methods including the small-scale fire test in Annex A, the inspection rules and the packaging and instructions for use. The 2025 revision arrives as the industry moves away from fluorinated surfactants, which is the change that matters commercially. Issued on 1 August 2025, in force since 1 August 2026, replacing GB 15308-2006. 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 edition it replaces are taken from there. The clause text, the tables and the numeric limits are not reproduced on this page - they are in the document itself, which is delivered in full in English translation.

This document defines the terms and definitions of foam extinguishing agents, stipulates the classification, code and model specifications, requirements, inspection rules, as well as packaging, transportation, marking, storage, and instructions for use, and describes the corresponding test methods. This document applies to the research and development, production and inspection of foam extinguishing agent products.

2 Normative references

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

GB/T 6003.1 Test sieves - Technical requirements and testing - Part

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 characteristic values The physical and chemical performance values of the foam concentrate and the foam solution that are provided by the manufacturer.

3.2 25% drainage time The time required to separate the liquid equivalent to 25% of the foam mass from the foam.

3.3 expansion The ratio of the volume of foam to the volume of the foam solution that constitutes the foam.

3.4 low expansion foam concentrate Foam concentrate with an expansion of 1~20.

3.5 medium expansion foam concentrate Foam concentrate with an expansion of 21~200.

3.6 high expansion foam concentrate Foam concentrate with an expansion greater than 200.

3.7 foam A collection of air-filled bubbles formed from a foam solution. NOTE. Foam is also called fire-fighting foam.

3.8 foam concentrate A concentrated liquid that forms a foam solution when mixed with water at an appropriate concentration. NOTE. Foam concentrate is also called foam concentrate liquid.

3.9 foam solution A solution made of foam concentrate and water at a specified concentration.

3.19 spreading coefficient A measure of the ability of one liquid to spread freely on the surface of another liquid.

3.20 lowest temperature for use The temperature that is 5 °C above the freezing point.

4 Classifications, codes and model specifications

4.1 Classifications and codes The main classifications and codes of foam concentrates are shown in Table 1.

4.2 Model specifications The method for compiling the model specifications of foam extinguishing agents is as follows: EXAMPLE 1.3% (P, -10 °C) means a protein foam extinguishing agent with a mixing ratio of 3%, a freezing point of -10 °C, and is suitable for fresh water. EXAMPLE 2.6% (AFFF, -15 °C)-Seawater resistant means an aqueous film-forming foam extinguishing agent with a mixing ratio of 6%, a freezing point of -15 °C, and is suitable for both fresh water and seawater.

5.1 General requirements

5.1.1 If the foam concentrate is suitable for use with seawater, the concentration of the foam solution prepared with seawater shall be the same as that prepared with fresh water.

5.1.2 The raw materials and production process of the foam concentrate shall meet the requirements of human health, safety and environmental protection.

5.1.3 Foam concentrates of different model specifications or produced by different processes shall not be mixed when filling fire extinguishers, fire trucks and fire extinguishing systems are filled or when fire extinguishing equipment is repaired.

5.2.1 Low expansion foam concentrate

5.2.1.1 The physical and chemical properties of low expansion foam concentrate or foam solution shall comply with the requirements of Table 2.

6.1 Sampling and temperature treatment

6.1.1 Sampling Whether sampling from one container or from multiple containers, stir thoroughly. Fill the storage container with the sample and seal it.

6.1.2 Temperature treatment The foam concentrate shall be temperature-treated according to the following steps.

- a) If the manufacturer declares that the sample is not affected by freeze-thaw, the sample shall first be subjected to four freeze-thaw cycles according to 6.3, and then processed according to 6.1.2b);
- b) Place the sample sealed in the container in an environment at $(60 \pm 2) ^\circ\text{C}$ for 7 days, and then place it in an environment at $(20 \pm 5) ^\circ\text{C}$ for 1 day;
- c) If the manufacturer declares that the sample is subject to freeze-thaw, only process the sample according to 6.1.2b).

6.2 Freezing point

6.2.1 Instruments and equipment Test instruments and equipment shall meet the following requirements.

- a) Freezing point test equipment. with a temperature control accuracy of $\pm 1 ^\circ\text{C}$;
- b) Platinum resistor. T100, with an accuracy of $\pm 0.1 ^\circ\text{C}$ and an outer diameter of
- c) Digital temperature display instrument. The resolution is $0.1 ^\circ\text{C}$.

6.2.2 Test steps The freezing point test for the foam concentrate shall be carried out according to the following steps.

- a) Turn on the freezing point test equipment and stabilize the temperature of the cold chamber at $(10 \pm 1) ^\circ\text{C}$ below the freezing point of the sample;
- b) Inject the sample into the dry, clean inner tube so that the liquid level is approximately 50 mm;
- c) Use a cork or rubber stopper to fix the platinum resistor in the center of the inner tube, with the lower end of the platinum resistor 10 mm away from the sample liquid surface;
- d) Place the inner tube containing the sample into the outer tube, with the distance from the bottom of the inner tube to the bottom of the outer tube not exceeding 10 mm. Then place the outer tube into the cold chamber, with the depth of the outer tube in the cold chamber not less than 100 mm.
- e) Start the test, and the equipment automatically records the temperature-time curve;
- f) When the sample is completely frozen, read the temperature at the platform of the curve