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

GB 16809-2024

Fire resistant windows

防火窗

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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 16809-2008 "Fireproof Windows". Compared with GB 16809-2008, in addition to structural adjustments and editorial changes, the main The main technical changes are as follows:

- a) The scope of application of the standard has been changed (see Chapter 1, Chapter 1 of the.2008 edition);
- b) Added the terms and definitions of partially insulated fireproof windows (Class B) (see 3.5);
- c) Changed the product naming, classification and code, added aluminum alloy fireproof windows to the product naming and code, added classification by place of use Classification and code. Added classification and code by opening method, added some thermal insulation and fire protection in classification and code by fire resistance performance For windows, the fire resistance performance is changed from being expressed in "h" to being expressed in "min" (see 4.1, 4.2, 4.3, and 4.2.2 of the.2008 edition);
- d) The method of compiling fireproof window models has been changed, and the corresponding modifications have been made according to the changes in relevant classifications and codes (see 4.3.2,.2008 edition). 5.2);
- e) Added general requirements and changed the requirements for materials and manufacturing processes of fire-resistant windows (see Chapter 5,.2008 Edition, Chapter 6). chapter);
- f) Added key material performance requirements and corresponding test methods such as steel thickness, wood combustion performance, aluminum alloy substrate thickness, etc. (see 6.3, 7.4);
- g) Added performance requirements and corresponding test methods for key components such as fire-resistant glass, seals, hinges, window closing devices, etc. (see 6.4, 7.5);

- h) The airtightness and wind pressure resistance performance indicators and corresponding test methods have been changed (see 6.5.1, 6.5.3, 7.6, 7.1.4, 2008 edition 7.1.5, 8.9, 8.10);
- i) Added requirements for watertightness, thermal insulation, sound insulation, smoke tightness, and movable fan linkage signal reception and feedback functions. Corresponding test methods (see 6.5.2, 6.6.1, 6.6.2, 6.6.3, 6.7.2, 7.6, 7.7, 7.8);
- j) Changed the durability requirements for repeated opening and closing of movable doors and the corresponding test methods (see 6.7.1, 7.8.1, 7.2.3, 2008 edition 8.11);
- k) Added the water spray impact resistance performance and test method of the fireproof windows in the refuge layer (room) (see

1 Scope

China's mandatory national standard for fire-resisting windows. A fire window is a harder problem than a fire door because glass is the part that has to hold, and ordinary glass fails within seconds of the fire reaching it. Two constructions answer that. Insulating fire glass carries a clear intumescent interlayer that turns opaque and rigid in the heat, blocking both flame and radiant heat, and it is what allows a rated window between an escape corridor and an office. Wired or borosilicate glass holds integrity but transmits the heat, so it can stop the flame while still igniting what is on the far side. The standard specifies the integrity and insulation classes, the test on the complete window - glass, frame, beads and any opening mechanism together - and the requirements for windows that must close automatically on detection.

This document specifies the product naming, classification and code, specifications and models, overall requirements, technical requirements, inspection rules, marking, Packaging, transportation and storage, and describes the corresponding test methods. This document applies to steel fireproof windows, wooden fireproof windows, steel-wood composite fireproof windows, aluminum alloy fireproof windows and Design, manufacture and quality inspection of fireproof windows made of other materials.

2 Normative references

The contents of the following documents constitute 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.

GB/T 191 Pictorial markings for packaging, storage and transportation

GB/T 528 Determination of tensile stress-strain properties of vulcanized rubber or

thermoplastic rubber

GB/T 708 Dimensions, shapes, weights and tolerances of cold-rolled steel sheets and strips

GB/T 709 Dimensions, shapes, weights and tolerances of hot-rolled steel plates and strips

GB/T 5237.1 Aluminium alloy building profiles Part

5 Fire protection products

GB/T 6388 Shipping and receiving marks for transport packaging

GB/T 7106 Test methods for air tightness, water tightness and wind pressure resistance of exterior doors and windows of buildings

GB/T 8484 Test method for thermal insulation performance of exterior doors and windows of buildings

GB/T 8485 Classification and test methods for airborne sound insulation performance of building doors and windows

GB 8624-2012 Classification of combustion performance of building materials and products

GB/T 9969 General principles for instructions for use of industrial products

GB/T 9978.1 Fire resistance test methods for building components Part