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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 17591-2025

Replacing GB/T 17591-2006

Flame retardant fabrics

阻燃织物

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1 Scope

GB/T 17591-2025 is the Chinese national standard on flame retardant fabrics, in the field of textile and leather technology. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 28 February 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 September 2025. Classification: ICS 59.080.30, CCS W09. 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 issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document specifies the product classification, requirements, inspection rules, packaging, and marks of flame retardant fabrics, and describes the corresponding test methods. This document applies to the production, design, and inspection of woven and knitted fabrics intended for use in interior decoration, vehicle interiors (including aircraft, ships, automobiles, trains, etc.), and flame-retardant protective clothing.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 250, Textiles -- Tests for colour fastness -- Grey scale for assessing change in colour

GB/T 2910 (all parts), Textiles -- Quantitative chemical analysis

GB/T 3917.3, Textiles -- Tear properties of fabrics -- Part

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1 damaged length The maximum length of the damaged part of the material in a specified direction under specified test conditions. NOTE. The unit is millimeters. [Source: GB/T 3291.3-1997, 2.157, modified]

3.2 afterflame time The duration of sustained flaming combustion of a material after the ignition source has been removed, under specified test conditions. NOTE. The unit is the second. [Source: GB/T 3291.3-1997, 2.145]

3.3 afterglow time Under specified test conditions, the duration of continued flameless combustion of the material after flaming combustion has ceased, or - in the case of materials undergoing only flameless combustion - after the ignition source has been removed. NOTE. The unit is seconds. [Source: GB/T 3291.3-1997, 2.146]

3.4 melt drip Droplets of molten material, whether burning or not. [Source: GB/T 3291.3-1997, 2.161]

3.5 density of smoke A measure of the amount of smoke produced by a material under specified test conditions. NOTE. Expressed as the attenuation of light intensity passing through the smoke. [Source: GB 38262-2019, 3.5]

3.6 flame spread rate; rate of flame spread burning rate The distance the flame front advances per unit of time under specified test conditions. NOTE. The unit is millimeters per minute.

3.7 damaged area The total area of irreversible damage to a material caused by heat under specified test conditions. NOTE

1.Includes material loss, shrinkage, softening, melting, charring, combustion, and pyrolysis. NOTE

2.The unit is square centimeters. [Source: GB/T 3291.3-1997, 2.156, modified]

3.8 thermal protective performance; TPP Accumulated energy determined by the intersection of the measured heat transfer response curve of the material over time and the Stoll curve during the testing of thermal protective materials. [Source: GB/T 38302-2019, 3.1]

4 Product classification

Flame-retardant fabrics are classified into three categories based on their end-use. - Fabrics for interior decoration, such as curtains, tablecloths, drapery, sofa covers,

bedspreads, etc. - Fabrics for vehicle interiors, such as seat covers, curtains, sunshades, etc. - Fabrics for flame-retardant protective clothing.

5 Requirements

5.1 Burning behavior The burning behavior of flame-retardant fabrics shall comply with the specifications in Table

1.Burning behavior is classified into grades B1, B2, and B

3.Wash-resistant flame- retardant fabrics intended for interior decoration and vehicle interiors shall undergo wash-resistance testing in accordance with the procedures specified in 6.7.The burning behavior both before and after washing shall meet the requirements set forth in Table 1. Table 1 -- Requirements for the burning behavior of flame-retardant fabrics

6.8 The determination of fiber content shall be carried out in accordance with the provisions of GB/T 2910 (all parts), GB/T 38015, FZ/T 01026, FZ/T 01057 (all parts), etc.

6.9 The determination of breaking force shall be carried out in accordance with GB/T 3923.1.

6.10 The determination of tearing strength shall be carried out in accordance with GB/T 3917.3.

6.11 The determination of bursting strength shall be carried out in accordance with GB/T 7742.1.The test area shall be 50 cm^2.

6.12 The determination of yarn slippage shall be carried out in accordance with GB/T 13772.2.The load value shall be as specified in the standard for the test method.

6.13 The determination of pilling and fuzzing resistance shall be carried out in accordance with GB/T 4802.1-2008.Woven fabrics shall be tested using parameter D, and knitted fabrics shall be tested using parameter E.

6.14 The determination of abrasion resistance shall be carried out in accordance with GB/T 21196.2, using the face side as the test surface.

6.15 The determination of dimensional change after washing is carried out in accordance with GB/T 8628 and GB/T 8630.Washing is performed using procedure 4N as specified in GB/T 8629-2017.Woven fabrics are dried by hanging, while knitted fabrics are dried flat. If the care instructions specify gentle washing or hand washing, procedure 4G or 4H is used. The washing cycle is performed once.

6.16 The determination of dimensional change after dry cleaning is conducted in accordance with GB/T 8628 and GB/T 8630.The dry-cleaning procedure for standard materials specified in GB/T 19981.2-2014 is used. The number of cleaning cycles is one.

6.17 The determination of color fastness to dry cleaning shall be carried out in accordance

with GB/T 5711.

6.18 The determination of color fastness to washing with soap shall be carried out in accordance with the provisions of C (3) in GB/T 3921-2008.