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

**GB/T 21295-2024**

Replacing GB/T 21295-2014

**Technical requirements for the physical and chemical  
performance of garments**

服装理化性能的技术要求

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### 1 Scope

GB/T 21295-2024 sets the technical requirements for the physical and chemical performance of garments in China. It is the general standard that fills the gap between the fabric standards and the product standards for individual garment types: whatever the garment, these are the properties it has to meet, and it is widely cited in supply contracts precisely because it applies across the range. The standard sets the requirements on the fibre content and its tolerance against the label, the dimensional change on washing and on dry cleaning, the colour fastness to washing, dry cleaning, water, perspiration, rubbing and light, the seam slippage and the seam strength, the pilling, the appearance after washing, and the chemical requirements covering formaldehyde, pH, decomposable aromatic amines from azo dyes and odour, with the applicable limit by the class of garment and by the age of the wearer, together with the sampling and the test methods. The 2024 edition replaces GB/T 21295-2014. For a garment maker, a brand or a buyer testing a shipment from China, this is the specification.

This document specifies the technical requirements for the physical and chemical performance of garments. This document applies to the quality control of garments produced with textile woven fabrics as the main fabric. NOTE. This document is generally used for selection and application in the formulation and revision of garment standards and internal quality control.

## 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 3291.2, Textiles. Terms of textile material properties and test. Part

## 3 Terms and definitions

For the purposes of this document, the terms and definitions defined in GB/T 3291.2, GB/T 15557 apply.

## 4 Basic performance requirements

4.1 Fiber composition and content The fiber composition and content of the finished product shall comply with the requirements of GB/T 29862.

4.2 Color fastness The color fastness shall meet the requirements in Table 1.

### 4.3 Durable performance

4.3.5 Breaking strength The breaking strength of the finished product shall comply with the requirements in Table 5.

4.3.6 Bursting strength The bursting strength of knitted fabrics on the finished product shall not be less than 250 N. Products with hollow (including mesh, mesh, etc.), striped, rotten flower structures, and fabrics containing elastic fibers or ribbed fabrics are not tested.

4.3.7 Peeling strength of adhesive lining The peeling strength of the adhesive interlining of the finished product shall be no less than 6 N. The peeling strength test area of the adhesive interlining shall at least include the collar and the body of the jacket. The adhesive interlining area of velvet fabrics and woolen fabrics is not tested. The adhesive interlining, composite fabrics, and spray-coated fabrics that cannot be peeled off during the test are not tested.

4.3.8 Wear resistance The wear resistance of the fabric of the upper garment shall not be less than 10,000 times. The wear resistance of the fabric of the lower garment shall not be less than 15,000 times. For one-piece garments such as jumpsuits and dresses, the upper and lower garments shall be assessed separately.

### 4.4.1 Dimensional change rate

4.4.1.1 Dimensional change rate after washing The dimensional change rate of the finished product after washing shall meet the requirements in Table 7.

4.4.2 Distortion rate after washing The distortion rate of the finished product after washing shall meet the requirements in Table 9.

4.4.3 Appearance after washing The appearance of the finished product after washing (washing, dry cleaning) shall comply with the requirements in Table 10.

## 5 Functional requirements

5.1 General Functional requirements only assess finished products that clearly have the corresponding functions.

5.2 Moisture permeability The moisture permeability shall not be less than 2200 g/(m<sup>2</sup> · 24h).

5.3 Moisture absorption and quick-drying performance The moisture absorption and quick-drying performance before and after washing shall meet the requirements in Table 11.

### 5.4 Waterproof performance

5.4.1 Basic requirements The finished product shall choose the appropriate evaluation method according to the specific performance and usage scenario. For finished products declared as "water repellent", it is generally only necessary to meet the water dipping method test requirements. However, f

5.4.2 Water dipping method The water level shall not be lower than level 3~4 before washing and shall not be lower than level 3 after washing.

5.5 Thermal insulation performance The thermal insulation rate of filled clothing shall be no less than 68%. T

5.6 Flame retardant properties The damaged length shall be no more than 150 mm.

5.7 Anti-ultraviolet performance The UV protection factor (UPF) shall be greater than 40 and the T(UVA)AV less than 5%.

5.8 Oil repellency The oil repellency level shall not be lower than level 4.

5.9 Decontamination performance When the initial color difference is equal to or lower than level 3, the color difference level of the test result shall not be lower than level 3~

4. When the initial color difference is equal to or higher than level 3~4, the color difference level of the test result shall be

5.10 Easy-ironing performance After washing and drying for 5 times, the appearance flatness after washing and drying shall not be lower than level 3.5.

5.11 Anti-wrinkle performance The wrinkle level shall not be less than level 3.

5.12 Antistatic properties The charge shall not exceed 0.60 μC/piece.

5.13 Anti-itching performance The itching value shall not be greater than 320.

5.14 Mosquito repellency performance The repellency rate shall be no less than 30%.

5.15 Anti-mildew performance The anti-mildew level shall meet the requirements of level 0 or level 1.

## 6.1 Basic safety technical requirements

6.1.1 Formaldehyde content The formaldehyde content of the finished product shall comply with the requirements of GB 18401.

6.1.2 pH The pH of the finished product shall comply with the requirements of GB 18401.

6.1.3 Degradable carcinogenic aromatic amine dyes The degradable carcinogenic aromatic amine dyes in finished products shall comply with the requirements of GB 18401.

6.1.4 Phthalates The phthalates in the finished product shall comply with the requirements in Table 16.

6.1.5 Total lead and total cadmium The total lead and total cadmium in the finished product shall comply with the requirements in Table 17.

6.1.6 Combustion performance Infant and children's clothing, and adult clothing with flammability assessment requirements shall reach level

1. The flammability assessment is only for the outer fabric of the product. Pure textile fabrics of wool, acrylic, modified acrylic, nylon, polypropylene and polyester fibers, as well as fabrics blended with these fibers, are not assessed. Fabrics with a unit mass greater than 90 g/m<sup>2</sup> are not assessed.

6.1.7 Odor The odor requirements of finished products shall comply with the provisions of GB 18401.

6.1.11 Residual metal needles There shall be no residual metal needles in the finished product.

## 6.2 Other technical requirements

6.2.1 Extractable heavy metals The extractable heavy metals in the finished product shall meet the requirements in

6.2.4 Allergenic dyes The allergenic dyes of the finished product shall comply with the requirements in Table