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TEXTILE INDUSTRY STANDARD

OF THE PEOPLE'S REPUBLIC OF CHINA

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FZ/T 01149-2019

**Textiles – Evaluation for Windproof and Water-Vapor
Permeability**

纺织品 防风透湿性能的评定

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Textiles – Evaluation for Windproof and Water-Vapor Permeability

1 Scope

This Standard specifies the test method, evaluation and labeling of windproof and water-vapor permeability of textiles.

This Standard is applicable to all kinds of fabrics and their products.

2 Normative References

The following documents are essential to the application of this Document. For the dated documents, only the versions with the dates indicated are applicable to this Document; for the undated documents, only the latest version (including all the amendments) is applicable to this Document.

GB/T 5453-1997 Textiles - Determination of the permeability of fabrics to air

GB/T 8629-2017 Textiles - Domestic washing and drying procedures for textile testing

GB/T 12704.1-2009 Textiles - Test method for water-vapor transmission of fabrics - Part 1: Desiccant method

3 Terms and Definitions

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

3.1 Windproof and water-vapor permeability

The performance of the fabric that can resist air permeability and expel water vapor.

NOTE: Windproof and water-vapor permeability are generally characterized by air permeability and water-vapor transmission rate.

3.2 Air permeability

The performance of air permeability of fabrics that is expressed by the rate at which air flows vertically through the test specimen under specified test area, pressure drop and time conditions.

[GB/T 5453-1997, definition 3]

3.3 Water-vapor transmission rate (WVT)

Under the conditions that the specified temperature and humidity is maintained on both side of the specimen, the mass of water vapor that passes vertically through a unit area of the specimen within a specified time, in $[g/(m^2 \cdot h)]$ or $[g/(m^2 \cdot 24h)]$.

[GB/T 12704.1-2009, Definition 3.1]

4 Sampling and Specimen Preparation

4.1 The method and quantity of sample collection shall be in accordance with the product standards or agreed upon by the parties concerned. For fabric samples, each sample shall be cut from a full width of fabric of more than 1.5m; and the sampling shall avoid more than 2m from the edge of the fabric. For finished products, at least 1 unit shall be taken.

4.2 Representative specimens that meet the requirements of air permeability and water-vapor transmission rate tests shall be cut from the samples, respectively. The specimens shall avoid defects and wrinkles that may affect the test results. For finished products, specimens shall be selected from the main functional fabrics.

5 Test Method

5.1 Air permeability

The air permeability is carried out in accordance with the provisions of GB/T 5453; the pressure-drop on both sides of the specimen is 100Pa; and the test area is 20cm².

5.2 Water-vapor transmission rate

The water-vapor transmission rate is carried out in accordance with the provisions of GB/T 12704.1-2009; and the test conditions of group a) are adopted.

5.3 Washing method

If the durability of windproof and water-vapor permeability needs to be evaluated, in addition to the test before washing, the specimen needs to be washed and then tested. The washing method is to wash for 5 times according to the 4N program of Type-A washing machine in GB/T 8629-2017; and hang the specimen to dry after washing; or the washing and drying methods can be carried out according to the product instructions or agreed by the relevant parties.

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