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

GB/T 21655.2-2019

Replacing GB/T 21655.2-2009

**Textiles - Evaluation of absorption and quick-drying - Part
2: Method for moisture management tests**

纺织品 吸湿速干性的评定 第2部分: 动态水分传递法

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Foreword

GB/T 21655 "Textiles - Evaluation of absorption and quick-drying" consists of two parts. - Part

1 Scope

GB/T 21655.2-2019 is the Chinese national standard on textiles - evaluation of absorption and quick-drying - part 2:method for moisture management tests, 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 4 June 2019 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 January 2020. Classification: ICS 59.080.30, CCS W04. 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 Part of GB/T 21655 specifies method and evaluation index that use moisture management method to determine moisture-absorption quick-drying and

moisture-absorption perspiration of textiles. This Part is applicable to various textiles.

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 6529, Textiles - Standard atmospheres for conditioning and testing

GB/T 6682, Water for analytical laboratory use - Specification and test methods

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

3 Terms and definitions

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

3.1 wetting time; T The time required from liquid touches fabric surface till fabric starts absorbing moisture. It is represented by the time when the first slope is greater than or equal to $\tan 15^\circ$ on moisture-time relationship curve.

3.2 absorption speed; A The increase rate of moisture content per unit time of fabric. On moisture content change curve, it is average slope of moisture content change curve within testing time.

3.3 maximum wetting radius; R The maximum radius of wetting area since fabric begins to wet till specified time ends. On moisture curve, it is the maximum radius of wetting area when the first slope of curve is greater than or equal to $\tan 15^\circ$ till testing time ends.

4 Principle

Horizontally place fabric sample. After test solution touches its wetting surface, liquid water shall spread along with wetting surface of fabric and transport from fabric's wetting surface to permeable surface. At the same time, it shall spread on permeable surface of fabric. The process of change in water content is a function of time.

5 Devices and reagents

5.1 Testing instrument of dynamic transport performance of liquid water Testing instrument of dynamic transport performance of liquid water (see Figure 1) mainly includes sensor module, water supply module, data acquisition module, in accordance with following requirements.

6 Standard atmospheres for wet conditioning and test

Atmospheres for wet conditioning and test are in accordance with standard atmospheres specified in GB/T 6529.

7 Sampling and test preparation

7.1 Sample's sampling method and quantity are in accordance with product standard or agreed by parties concerned.

7.2 Cut each sample into two pieces, one for test prior to washing and the other for post-washing test. Washing method. continuously wash 5 times according to 4N program of Type A washing machine in GB/T 8629-2017 or wash according to method agreed by parties concerned and number of times. After washing, dry sample at a temperature not exceeding 60°C or naturally dry it.

8.3 Take sample out. Use clean absorbent paper to absorb excessive residual liquid from sensor board. Place still for at least 60s. Ensure that there shall be no residual liquid before testing again.

8.4 Repeat steps of 8.1~

8.3 till all samples are tested.

9.1 Calculation

9.1.1 Absorption speed A Respectively calculate average absorption speed of wetting surface AT and average absorption speed of permeable surface AB according to formula (1). Round the values off to 0.1.

9.1.2 Spreading speed S Calculate spreading speed S according to formula (2). Round value off to 0.1.

9.2 Rating Perform rating according to requirements in Table 1.

10 Evaluation and marks

10.1 Evaluation When necessary, evaluate product's corresponding performances according to Table

2. When corresponding performance of product before washing and after washing meets technical requirements in Table 2, the product shall be clearly indicated as the one of corresponding performance in product's user manual.