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TEXTILE INDUSTRY STANDARD OF

THE PEOPLE'S REPUBLIC OF CHINA

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FZ/T 01071-2008

Replacing FZ/T 01071-1999

Textiles -- Test method for capillary effect

纺织品 毛细效应试验方法

Issued on: March 12, 2008 **Implemented on: September 01, 2008**

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Foreword

This Standard refers to the "Liquid wicking rate" content in ISO 9073-6:2000 "Textiles -- Test methods for nonwovens -- Part 6: Absorption" and revises FZ/T 01071-1999 " Wicking Textile Test Methods".

Compared with FZ/T 01071-1999, this Standard mainly modifies the following technical contents:

1) The scope of application has been modified;

2) The terms and definitions of "liquid wicking height" and "liquid wicking rate" have been added;

3) "Distilled water" has been changed to "tertiary water";

4) The test liquid temperature of 27℃±2℃ has been changed to equilibrium under standard atmosphere;

5) The test liquid has been changed from 0.5% potassium dichromate solution to tertiary water. Notes on the use of colored reagents have been added;

6) The test time series of 1 min, 5 min, 10 min, 20 min and 30 min have been added;

7) The calculation of the average value of the minimum seepage height has been changed to the calculation of the average value of the maximum value and (or) the average value of the minimum value;

8) The method of drawing the t-h curve and calculating the liquid wicking rate at a certain moment has been added;

9) The rapid test method in Annex A has been deleted.

This Standard shall replace FZ/T 01071-1999 from the date of its implementation.

This Standard was proposed by China National Textile and Apparel Council.

This Standard shall be under the jurisdiction of Subcommittee on Basic Chapter of National Technical Committee on Textiles of Standardization Administration of China (SAC/TC 209/SC 1).

The drafting organizations of this Standard: Textile Industry Standardization Institute.

Main drafters of this Standard: Si Ying.

Versions of standard substituted by this Standard are:

Textiles -- Test method for capillary effect

1 Scope

This Standard specifies the method for determining the capillary effect of textiles.

This Standard applies to filaments, yarns, ropes, fabrics and textile products.

This Standard does not apply to short fibers.

2 Normative references

The following documents contain the provisions which, through reference in this Standard, become the provisions of this Standard. For dated references, their subsequent amendments (excluding corrigendum) or revisions do not apply to this Standard. However, the parties who enter into agreement based on this Standard are encouraged to investigate whether the latest versions of these documents are applicable. For undated reference documents, the latest versions apply to this Standard.

GB 6529, *Textiles -- Standard atmospheres for conditioning and testing*

GB/T 6682, *Water for analytical laboratory use -- Specification and test methods* (GB/T 6682-1992, neq ISO 3696:1987)

GB/T 8170, *Rules of rounding off for numerical values and expression and judgement of limiting values*

3 Terms and definitions

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

3.1 capillary effect

A phenomenon that one end of a textile material is soaked with liquid, and the liquid is transported along the capillaries of the textile material.

3.2 liquid wicking height

A measure of the capillary effect of the test material. That is, when one end of a vertically suspended textile material is soaked with liquid, the liquid rises along the textile material through capillary action within a certain period of time.

3.3 liquid wicking rate

layer of not less than 250 mm in length and about 30 mm in width. At least three specimens are prepared for each sample.

6.2 For fabric specimens, cut at least one specimen from the left, middle and right positions along the longitudinal direction at one-tenth of the width of the fabric edge. Cut at least three specimens along the transverse direction. The length of each specimen shall not be less than 250 mm. The effective width is 30 mm. Ensure that the edge yarn along the length direction of the specimen is a complete yarn.

6.3 For products such as ropes and belts with a width of less than 30 mm or products that are not suitable for cutting, the original width shall be used for testing. Three specimens of not less than 250 mm shall be cut from each sample along the length direction.

7 Humidity conditioning and test conditions

7.1 The specimen shall be humidified in a standard atmosphere with a temperature of 20°C±2°C and a relative humidity of 65%±3% in accordance with GB 6529.

7.2 Place the test solution in a standard atmosphere with a temperature of 20°C±2°C and a relative humidity of 65%±3% for equilibrium.

7.3 The test shall be carried out under standard atmospheric conditions of 20°C±2°C and relative humidity of 65%±3%.

8 Operating procedure

8.1 Rotate the base screw (5.1.1) to adjust the level of the test device. Fix one end of the specimen on the crossbeam (5.1.3) with the specimen clamp (5.1.4).

8.2 Install a tension clamp (5.1.5) of appropriate mass at 8 mm to 10 mm below the lower end of the specimen to keep the specimen vertical.

8.3 Adjust the position of the specimen so that it is close to and parallel to the scale (5.1.6) and its lower end is located 15 mm ± 2 mm below the zero position of the scale.

8.4 Pour the test solution (5.4) into the container (5.1.2) on the base. Lower the crossbar so that the liquid level is at the zero position of the scale (the lower end of the specimen is 15 mm ± 2 mm below the liquid level). Start timing at this time.

8.5 Measure the maximum and/or minimum liquid wicking height at 30 min, in millimeters (mm).

8.6 If necessary, measure the maximum and/or minimum liquid wicking height after 1 min, 5 min, 10 min, 20 min, 30 min or longer.

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