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**TEXTILE INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

FZ/T 01086-2020

**Textiles - Test method for yarn hairness - Projection counting
method**

(English Translation)

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Foreword

This Standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This Standard replaces FZ/T 01086-2000 "Textiles - Test method for yarn hairness - Projection counting method". Compared with FZ/T 01086-2000, the main technical changes in this Standard are as follows:

- Supplement the scope of products not applicable in Chapter 1 (see Chapter 1 of this Edition);
- Modify the title of Chapter 2 "References" to "Normative references" and the description of referenced documents. Delete GB/T 8170-1987 as a reference. Adjust the reference standard GB 6529-1986 to GB/T 6529 (see Chapter 2 of this Edition);
- Modify the title "Definition" of Chapter 3 to "Terms and definitions". Modify 3.4 "hairness index" to "hairness count". Add the term and definition of 3.5 "length between" (see Chapter 3 of this Edition);
- Adjust Chapter 4 "Principle" (see Chapter 4 of this Edition);
- Adjust the accuracy of the instrument. Supplement and improve the requirements

for the instrument (see Chapter 5 of this Edition);

-- Add Figure 1 "Schematic diagram of the built-in edge of the hairness tester" (see Figure 1 of this Edition);

-- Modify the title of Chapter 6 "Sample quantity and number of tests" to "Sampling" (see Chapter 6 of this Edition);

-- Move the content related to setting the number of tests in 6.4 to Chapter 8 (see 8.3 of this Edition; 6.4 of Edition 2000);

-- Add the requirement that "in order to avoid changes in yarn hairness morphology, the specimen shall not be unwound before testing" in 6.4 (see 6.4 of this Edition;

6.5 of Edition 2000);

-- Modify the title of Chapter 7 "Pre-humidification and humidification" to "Humidification and test atmosphere". Modify the atmospheric conditions for humidity control and testing from "using the secondary standard atmosphere specified in GB 6529" to "the standard atmosphere specified in GB/T 6529" (see Chapter 7 of this Edition);

-- Merge the contents of Chapter 8 and Chapter 9 (see Chapter 8 of this Edition; Chapter 8 and 9 of Edition 2000);

Textiles - Test method for yarn hairness - Projection
counting method

1 Scope

This document specifies the method for measuring the hairness of short fiber yarns using an optical projection hairness tester.

This Standard applies to:

- a) Cotton yarn and cotton fiber yarn;
- b) Wool yarn and wool fiber yarn;
- c) Linen yarn;
- d) Silk spinning yarn;
- e) Medium to long fiber yarn;

f) All types of blended yarns.

This Standard does not apply to high elastic yarns, bulked yarns and fancy yarns.

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

3 Terms and definitions

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

3.1 yarn hairness

The fiber ends or loops that stick out of the main body of the yarn.

3.2 hairness protruding length

The length by which fiber ends or loops protrude from the basic surface of the yarn.

3.3 hairness setting length

The specified length of hair extension.

3.4 hairness count

The cumulative number of hairy roots with a protruding length exceeding a certain set length on one side of the yarn per unit length of yarn. The unit is roots/m.

3.5 length between

Basic length unit for testing yarn hairness.

4 Principle

When the continuously moving yarn passes through the detection area, its hairness will block the projection beam accordingly, or the yarn hairness will be amplified and imaged on the projection screen. At this time, the electronic photosensitive device converts the imaging hairness into electrical signals and processes the signals. The

hairness count on one side of the yarn is classified and counted according to different set lengths.

5.1 Hairness tester

Hairness tester shall meet the following basic requirements:

1) Using the principle of photoelectric detection, the instrument can detect the hairness count with different hairness setting lengths. Hairness setting lengths shall include at least 1 mm, 2 mm and 3 mm. The instrument adopts the hairness baseline positioning method with built-in fixed edges (see Figure 1). The last wrapping angle (see Figure 1) that the yarn passes through when entering the detection zone is 15°. You can select the yarn length between as needed. It can detect the hairness distribution of different yarn length between.

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