FZ

TEXTILE INDUSTRY STANDARD OF

THE PEOPLE'S REPUBLIC OF CHINA

FZ/T 01050-1997

Textiles - Classifying and Testing Method of Yarn Faults - Capacitance

纺织品 纱线疵点的分级与检验方法 电容式

Issued on: May 26, 1997 **Implemented on: January 01, 1998**

Issued by: China National Textile Council

Table of Contents

Textiles - Classifying and Testing Method of Yarn Faults - Capacitance

1 Scope

This Standard specifies the method for classifying and testing staple yarn faults by a capacitive yarn fault classifier.

This Standard is applicable to pure or blended staple yarns spun from cotton, wool, hemp, chemical fibre, spun silk and other materials with a linear density in the range of 5~100 tex.

This Standard is not applicable to chemical fibre filaments and yarns spun with conductive materials.

2 Normative References

The following standards contain provisions which, through reference in this Standard, constitute provisions of this Standard. At the time of publication, the editions indicated are valid. All standards are subject to revision. The parties who are using this Standard shall explore the possibility of using the latest version of the following standards.

GB 3291-1982 Textile Terms and Definitions (General Part for Textiles)

GB 6529-1986 Standard Atmospheres for Textiles Conditioning and Testing

GB 8170-1987 Rules for Rounding off of Numerical Values

3 Definitions

This Standard uses the following definitions.

3.1 Material value

The value set in order to adjust the sensitivity of the yarn fault classifier, which is related to factors such as the relative humidity of the test material and air.

3.2 Harmful yarn fault

7.2 The taken samples shall be evenly distributed on each detector.

7.3 In daily inspections, a set of test lengths shall be no less than 100,000m, of which woollen yarns can be appropriately reduced, but at least 50,000m. For arbitration inspections, more than four sets of tests shall be carried out.

8 Atmospheric Conditions

8.1 The conditioning of the specimen shall adopt the secondary standard atmosphere specified in GB 6529, that is, equilibrate at a temperature of 20°C±2°C and a relative humidity of 65%±3% for more than 24h. When the large and tight sample package or one package needs to be tested for more than once, it shall be equilibrated for more than 48h. The standard atmosphere shall be kept constant during the conditioning and test process until the end of the test.

8.2 The specimen shall be adjusted and balanced under moisture absorption. If necessary, it can be pre-conditioned according to GB 6529.

8.3 If the factory test room does not have the above conditions, the test can be carried out under the following stable temperature and humidity conditions, after the specimen reaches the humidity balance (the mass change of continuous weighing every 30min does not exceed 0.1%).

The average temperature is 18~28°C, and the average relative humidity is 55%~70% during the conditioning and test period. At the same time, it shall be ensured that the temperature change does not exceed an average temperature within the above range ±3°C; the relative humidity change does not exceed an average relative humidity within the above range ± 3%.

The product acceptance and arbitration inspection shall be implemented in accordance with 8.1 and 8.2.

9 Setting of Main Parameters

9.1 Linear density. Set according to the nominal linear density.

9.2 Winding speed. 600m/min is recommended. At the same time, it shall be ensured that the difference between the setting speed of the instrument and the winding speed does not exceed ±10%.

9.2.1 The method of measuring the winding speed can be measured by a friction wheel tachometer in the middle of a half-full bobbin, or it can be estimated by weighing the yarn mass within a certain period of time to convert the length.

10.4.2 The measuring tank shall be cleaned before the test. After the yarn breaks or yarn faults are cut off during the test, the residual yarn in the measuring tank shall be removed immediately, and the splicing shall be continued for the test after at least 1min.

10.4.3 During the test, the area around the measuring tank shall be cleaned frequently to prevent flying from entering the measuring tank.

10.4.4 After each splicing, it shall be put into the measuring tank after the yarn speed reaches normal speed.

10.4.5 When the sample is unwound to the last few turns of the package, it is prone to unloop, and false yarn fault signals appear. Therefore, the last few turns of yarn shall be discarded during operation.

11 Test Results and Presentation

11.1 The test results can generally be expressed in two ways, namely, the number of yarn faults at various levels of 100,000m, and the number of harmful yarn faults of 100,000m. The range of harmful yarn faults is determined according to product standards or relevant agreements.

11.2 During product acceptance and arbitration inspection, take the average of the four groups of specimens, and calculate the standard deviation (or coefficient of variation) if necessary.

11.3 The test results shall be rounded off according to the method specified in GB 8170. The number of yarn faults of 100,000 meters shall be kept in integer, and the remaining parts shall be retained for three significant figures.

12 Test Report

Explain that the test is carried out in accordance with this Standard, and report the following:

a) Sample materials, specifications and quantity, and if necessary, indicate the source of the sample

b) Test environmental conditions (temperature, humidity);

c) Instrument model;

d) Necessary test parameters such as material value and sampling length;

This is an excerpt of the PDF (Some pages are marked off intentionally)

------ The End ------