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

GB/T 6498-2024

Replacing GB/T 6498-2008

**Test method for micronaire value of cotton fibers
(English Translation)**

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document replaces GB/T 6498-2008 "Test method for micronaire value of cotton fibers".

In addition to the integration and editorial changes, the main technical changes are as follows.

- Changed the terms and definitions of micronaire (see 3.1, 3.1 of the 2008 edition);
- Added airflow instrument requirements (see 5.2);
- The sample preparation method has been changed (see 7.2, 7.2 of the 2008 edition);
- Added test report description of sample preparation method, test date, details of any deviation from this document and any abnormalities observed the content of the situation (see Chapter 10).

This document is modified to adopt ISO 2403:2021 "Textiles - Determination of the Micronaire value of cotton fibres".

This document has the following structural adjustments compared to ISO 2403:2021.

- Added 6.3;
- Chapter 8 8.1.1 is changed to item a), 8.1.2 is changed to item b);
- Appendix B corresponds to Appendix C in ISO 2403:2021, and Appendix C corresponds to Appendix B in ISO 2403:2021.

The technical differences between this document and ISO 2403:2021 and their reasons are as follows.

- ISO 139 (see 6.2) is replaced by the normative reference GB/T 6529 to adapt to my country's technical conditions and improve operability;
- Added cotton fiber micronaire value test at room temperature (see 6.3) to meet the needs of on-site inspection;
- ISO 1130 (see 7.1) has been replaced by the normative reference GB/T 6097 to adapt to my country's technical conditions and improve operability.

The following editorial changes were made to this document.

- The name of the standard is changed to "Test method for micronaire value of cotton fibers";
- Changed Table B.1 in Appendix B;
- Changed Table C.1 in Appendix C;
- Replaced ISO 5725-5:1998 and GB/T 6379.2-2004 and GB/T 6379.6-2009 with informative references ISO 13528:2015 (see C.3).

Introduction

The micronaire value is one of the most important cotton fiber quality parameters. It is obtained by measuring cotton fiber plugs and represents the average value of the measured fiber plugs.

Since the sample preparation is simple, the measurement can be completed in a short time, so the test results can be obtained quickly.

According to the air permeability of compressed cotton fiber samples, early manual micronaires used mechanical air flow meters with float sensors to indicate the flow rate.

The air flow through the sample, the mechanical pressure gauge shows the pressure difference across the sample. Modern micronaire testers usually use electronic sensors Measures air flow and air pressure differential.

In all cases, the dimensionless micronaire value is calculated from the air flow rate and the pressure difference through the sample.

The range is from 2 to 8, where 2 indicates low air permeability (the sample has a high compression density and is composed of very fine and/or immature fibers) and 8 indicates high Air permeability (sample has low compression density and consists of very coarse and/or mature fibers).

Test method for micronaire value of cotton fibers

1 Scope

This document describes a method for determining the micronaire value of loose, irregularly arranged quantities of cotton fibres.

This document applies to the determination of the micronaire value of cotton fibres taken from bales, laps, slivers or other sources of lint.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

GB/T 6097 Sampling method for cotton fiber testing GB/T 6529 Standard atmospheres for conditioning and testing textiles (GB/T 6529-2008, ISO 139:2005, MOD)

3 Terms and definitions

The following terms and definitions apply to this document.

Micronaire value

A measure of the air permeability of a quantity of cotton fiber under specified conditions.

Note 1: The micronaire scale is based on a range of cottons that have been assigned micronaire values by international agreement.

Note 2: The micronaire value is an agreed scale.

4 Principle

The air flow passes through the fiber plug composed of the test sample, and the flow rate through the fiber plug or the pressure difference at both ends of the fiber plug is recorded, thereby the mass and volume of the sample can be kept constant for a certain type of instrument, or they can be changed appropriately according to their relationship.

The scale indicating the change in air permeability can be calibrated with micronaire values or expressed in appropriate units of flow rate or pressure difference and expressed in predetermined units.

Use a table or curve to convert the observed readings into micronaire values.

5 Equipment and Materials

5.1

Balance, with a graduation value of 0.01 g. The range is sufficient to weigh the sample required by the air flow meter, with an accuracy of $\pm 0.2\%$ of the sample mass.

5.2

Airflow meter. Its main components are.

5.2.1

Compression specimen cylinder with mesh plate. Its size should meet the requirements, that is, it can hold the test specimen of specified mass and after compression, the test specimen the sample density is $0.16\text{g/cm}^3\sim 0.30\text{g/cm}^3$.

5.2.2

The device for measuring the air permeability of the sample shall include.

a) A suitable air pump.

b) One or more valves or other devices used to control the air flow rate or pressure difference through the test specimen in the compression cylinder.