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

GB/T 14342-2015

Replacing GB/T 14342-1993

**Man-made fiber - Test method for specific resistance of staple
fibers**

化学纤维 短纤维比电阻试验方法

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Foreword

This Standard was drafted as per the rules specified in GB/T 1.1-2009. This Standard replaced GB/T 14342-1993 Testing Method for Specific Resistance of Synthetic Staple Fibers. The major differences between this Standard and GB/T 14342-1993 are as follows:

- Modify the standard name;
- Modify the standard applicable scope (see Clause 1 of this Edition; Clause 1 of 1993 Edition);
- Modify the specific resistance terminology (see Sub-clause 3.1 of this Edition; Clause 3 of 1993 Edition);
- Modify the technical requirements of specific resistance meter of fiber (see Sub-clause 5.1 of this Edition; Sub-clause 5.1 of 1993 Edition);
- Modify the atmospheric requirements for humidifying and test (see Clause 6 of this Edition; Clause 6 of 1993 Edition);
- Modify the judging mode of humidifying balancing (see Sub-clause 6.2.3; Sub-clause 7.2 of 1993 Edition);
- Modify the clause contents on specimen and preparation (see Clause 7 of this Edition;

Clause 7 of 1993 Edition);

--- Modify the clause contents on test procedures (see Clause 8 of this Edition; Clause 8 of 1993 Edition);

--- Add the formula to calculate the standard degree of filling for fiber (see Clause 9 of this Edition);

1 Scope

GB/T 14342-2015 is the Chinese national standard on man-made fiber - test method for specific resistance of staple fibers, 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 11 September 2015 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 April 2016. Classification: ICS 59.060.20, CCS W50. 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 Standard specifies the test methods for specific resistance of staple fibers of man-made fibers. This Standard is applicable to the staple fibers of man-made fibers.

2 Normative References

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) are applicable to this document.

GB/T 3291.1 Textiles - Terms of Textile Material Properties and Test - Part 1. Fiber and Yarn

GB/T 3291.3 Textiles - Terms of Textile Material Properties and Test - Part 3. General

GB/T 4146.1 Textiles - Man-Made Fibers - Part 1. Generic Names

GB/T 4146.3 Textiles - Man-Made Fibers - Part 3. Terms of Inspection

GB/T 8170 Rules of Rounding off for Numerical Values & Expression and Judgement of Limiting Values

GB 9994 The Convention Moisture Regains of Textiles

3 Terms and Definitions

The following terms and definitions and those ones stipulated in GB/T 3291.1, GB/T 3291.3, GB/T 4146.1 and GB/T 4146.3 are applicable to this document.

3.1 Specific resistance Fibers, in certain volume, is converted into volume resistance according to the fiber

7.2 Take two pieces of 15g of fibers (accurate to 0.1g) from the sample through humidifying balance, which shall be regarded as the test sample.

8 Test Procedures

8.1 Start the specific resistance meter of fiber, pre-heating and adjusting to the normal working states.

8.2 Clean the internal test box with anhydrous ethanol, then cover the box. Connect the test electrodes of resistance meter to the two electrodes of test box; and exert 100V voltage; after measuring the insulation resistance no less than 10^{14} or no less than 10 times of the expected fiber resistance, it can be used for backup.

8.3 Disconnect the voltage on two electrodes of the test box; connect the two electrodes which shall also be grounding, so that the electrostatic is discharged on the electrode plates.

8.4 Use tweezers to fill the fiber evenly into the test box, cover it, so that the fiber is within 6cmx4cmx2cm space.

8.5 Connect the test electrodes of resistance meter to the two electrodes of the test box.

8.6 Exert the test voltage to the two electrodes of the test box; take the readings for resistance meter after energizing for 1min as the resistance value of the tested fiber.

8.7 Repeat the procedure of 8.3.

8.8 Take out the fiber from the test box, repeat the procedures 8.4~

8.7 to measure the other fiber. NOTE. when the measuring range is 10^6 ~ 10^{14} , the test voltage is 100V. In order to improve the readings accuracy of the instrument with pointer indication, 50V is optical; but it shall be indicated in the report.

8.9 The resistance value 10^2 ~ 10^7 of staple fiber of man-made fibers can also be performed as per the provisions of Appendix A.

9 Result Calculation

9.1 The specific resistance of fiber shall be calculated as per Formula (1). Where.