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GB/T 6503-2017

Replacing GB/T 6503-2008

Man-Made Fibers - Test Method of Moisture Regain

化学纤维 回潮率试验方法

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Standardization Administration of PRC.

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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 6503-2008 *Testing Method for Moisture Regain of Man-Made Fibers*; compared with GB/T 6503-2008, this Standard has the major technical changes as follows:

--- Modify the scope of the standard (see Clause 1 of this Edition; Clause 1 of Edition 2008);

--- Adjust the normative references (see Clause 2 of this Edition; Clause 2 of Edition 2008);

--- Delete the definition of “moisture content”; modify the definition of “constant mass” (see Clause 3 of this Edition; Clause 3 of Edition 2008);

--- Modify the principle (see Clause 4 of this Edition; Clause 4 of Edition 2008);

--- Add the ventilated oven that can be used for cold weighting, and oven ventilation rate (see 5.1 of this Edition; 5.1 of Edition 2008);

--- Modify the general rules of test (see Clause 6 of this Edition; Clause 6 of Edition 2008);

--- Adjust Table 2 (see Clause 7 of this Edition; Clause 7 of Edition 2008);

--- Delete “baking basket needs to be calibrated mass at 105°C~110°C, and subject to this” (see 7.1.3 of this Edition; 7.1.3 of Edition 2008);

--- Delete the requirements specified in the product standards for implementing Appendix A (see Appendix A of this Edition; Appendix A of Edition 2008);

--- Modify the Value a in the Appendix A (see Table A.1 of this Edition; and Table A.1 of Edition 2008);

--- Adjust the instrument specifications in Appendix B (see B.3.1 of this Edition; and B.3.1 of Edition 2008);

--- Add heating temperature of dacron (DTY) in Appendix B (see B.5.4 of this Edition; B.5.4 of Edition 2008).

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

This Standard shall be under the jurisdiction of Shanghai Textile Industry Institute of Technical Supervision.

Man-Made Fibers - Test Method of Moisture Regain

1 Scope

This Standard specifies the test method for moisture regain of man-made fiber, namely, oven weighting method and cold weighting method.

This Standard is applicable to the man-made fiber.

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 4146 (all parts) Textiles – Man-Made Fibers

GB/T 6502 Sampling Method of Man-Made Filament Yarns

GB/T 9994 Conventional Moisture Regains of Textile Materials

GB/T 14334 Sampling method for Man-Made Staple Fibers

3 Terms and Definitions

The following terms and definitions and those ones stipulated in GB/T 4146 (all parts) are applicable to this document.

3.1 Constant mass

The specimen is treated and separated for a certain time; then the difference of two weightings before and after treatment doesn't exceed the specified range.

NOTE: this Standard specifies that the difference of two weightings before and after treatment shall not exceed 0.05% of the latter weighing.

3.2 Oven weighting

Bake the specimen to remove moisture within the oven; then use the balance attached

5.5 Dryer

For general purpose, equipped with color changing silicone.

6 General Rules of Test

6.1 Extraction of sample in laboratory

6.1.1 The sampling of staple fiber shall be as specified in GB/T 14334.

6.1.2 The sampling of filament shall be as specified in GB/T 6502. The laboratory sample is combined and twisted, then cut the specimen.

6.1.3 Take about 50g of each specimen for oven weighting method, while take about 10g of each specimen for cold weighting method. The taken specimen shall be quickly placed into the specimen vessel.

NOTE: don't extract the specimen from the packages that are accidentally wetted, scratched, or opened during the transporting period.

6.2 Specimen quantity

Sampling 2 specimens from each batch of samples, then take the parallel test.

6.3 Test requirements

6.3.1 Moisture regain test

6.3.1.1 When oven weighting, the temperature and humidity conditions for test environment are: temperature of 5°C ~ 35°C, temperature fluctuation ≤5°C/h, relative humidity of 40% ~ 80%; when cold weighting, test environment temperature of 15°C ~25°C, temperature fluctuation ≤1°C/h, relative humidity of 50% ~ 75%.

6.3.1.2 Weigh the specimen in time after sampling, it shall be finished within 24h after sampling.

6.3.1.3 When arbitrating, the atmosphere entering into the oven is non-standard atmosphere; the mass after baking shall be corrected as per Appendix A.

6.3.2 Standard moisture regain test

6.3.2.1 Provisions

The specimen is preconditioned (if necessary), conditioned; the weighing outside the oven shall be implemented under standard atmosphere. If the atmosphere entering into the oven is non-standard atmosphere, then the mass after baking shall be

Appendix B

(Informative)

Infrared (or Halogen) Moisture Analyzer Method

B.1 Applicable scope

This Appendix is applicable to the polyester (dacron).

B.2 Principle

The moisture content of specimen shall be measured as per the principle of thermogravimetric analysis method. The specimen is weighed, dried, and calculated in the moisture meter.

B.3 Apparatus

B.3.1 Instrument technical specification

B.3.1.1 Readability of measured values: 0.01%.

B.3.1.2 Precision of the balance: 1mg.

B.3.1.3 Heating source: infrared heat pipe or ceramic IR heater.

B.3.2 Specimen vessel

It is used for holding specimen, seal, and doesn't absorb moisture.

B.3.3 Sample tray or sample box

It is used for holding sample in the moisture meter.

B.4 Sampling

B.4.1 Sampling method

The staple fiber sampling shall be as specified in GB/T 14334; the filament sampling shall be as specified in GB/T 6502.

B.4.2 Specimen preparation

Take about 20g of staple fiber, take 2 specimens; quickly place them into sealed specimen vessel; and the measurement shall be finished within 24h; take about 15g of filament, take 2 specimens; quickly place into the sealed specimen vessel; and the

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