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Pulp Board for Viscose Fiber

– Determination for Reaction Property

粘胶纤维用浆粕 反应性能的测定

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Table of Contents

| | |
|--------------------------------|---|
| Foreword..... | 3 |
| 1 Scope..... | 5 |
| 2 Normative References | 5 |
| 3 Terms and Definitions | 5 |
| 4 Principle | 6 |
| 5 Reagents and Materials | 6 |
| 6 Apparatus..... | 6 |
| 7 Test General | 7 |
| 8 Test Procedures | 8 |
| 9 Test Report | 9 |

Foreword

This Standard was drafted as per the rules specified in GB/T 1.1-2009.

This Standard revised FZ/T 50010.13-1998 *Pulp Board for Viscose Fiber – Determination for Reaction Property*.

This Standard replaced FZ/T 50010.13-1998; compared with the original standard, this Standard has the major technical changes as follows besides the editorial changes:

- Expand the scope from the original cotton pulp to the cotton pulp board, wood pulp board, bamboo pulp board, hemp pulp board, etc. (see Clause 1 of this Edition);
- Change the Quoted Standard into the Normative References; and add 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*. (see Clause 2 of this Edition; Clause 2 of 1998 Edition);
- Delete the Clause on Laboratory Atmospheric Conditions (see Clause 3 of 1998 Edition);
- Add the Clause on Terms and Definitions (see Clause 3 of this Edition);
- Change the Clause on Reagents into Reagents and Materials; and Change the “chemically pure reagents” into “analytically pure reagents” (see Clause 5 of this Edition; Clause 5 of 1998 Edition);
- Change the Clause on Specimen Preparation into Test General, which is divided into two parts, the first part is sampling, the second part is test environment; thereof, change “viscose preparation and determination for reaction property shall maintain the following conditions including temperature of (20 ± 1) °C, relative humidity of (65 ± 3) %; temperature on working point of (20 ± 0.5) °C.” into “viscose preparation and determination for reaction property shall maintain the temperature at (20 ± 2) °C.” (see Clause 7 of this Edition; Clause 7 of 1998 Edition);
- Delete partial contents in the Clause on Viscose Preparation of [the viscose required to be prepared shall contain cellulose of 3.3%, sodium hydroxide of 13% (the adding amount of carbon disulfide shall be 44% of the absolute dry mass of the specimen)]; reserve the clause on specimen mass and viscose preparation; change the formula (1) (see 8.2, 8.3 of this Edition; 8.2 of 1998 Edition);
- Change, in viscose preparation, “adding 5mL of carbon disulfide” into “adding certain volume of carbon disulfide (recommended short-yarn cotton pulp board

Pulp Board for Viscose Fiber

– Determination for Reaction Property

1 Scope

This Standard specifies the determination for reaction property of pulp board for viscose fiber.

This Standard is applicable to various viscose fibers used pulp boards including cotton pulp board, wood pulp board, bamboo pulp board, hemp pulp board, etc.

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

FZ/T 50010.1 Pulp Board for Viscose Fiber – Sampling Method

FZ/T 50010.2 Pulp Board for Viscose Fiber – Determination of Moisture Content

3 Terms and Definitions

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

3.1 Reactivity property

It indicates the reactivity index of the pulp board (cellulose), which is expressed by the time difference used by the prepared viscose liquid passing through the filter hole with

7.2.2 During the determination of the reaction property, the liquid level shall be kept uniform (250mm).

7.2.3 The determination of reaction property shall be performed under ventilation conditions.

8 Test Procedures

8.1 Determination of specimen's analysis moisture

It shall be performed as per the provisions of FZ/T 50010.2.

8.2 Specimen mass

Calculate the specimen mass as per the Formula (1) (the specimen's absolute dry mass is 14.4g):

$$m = \frac{14.4}{100 - W} \times 100 \quad \dots\dots\dots(1)$$

Where:

m – mass of required specimen, in g;

W – analysis moisture of specimen through humidifying, in %;

14.4 – specimen's absolute dry mass, in g.

8.3 Viscose preparation

Take the specimen *m* through humidifying (convert into absolute dry mass of 14.4g, accurate to 0.01g as per 8.2), place it into 500mL brown jar; add 361mL of sodium hydroxide solution with temperature (20±0.5) °C, concentration of 13.7%. Install the stirring rod of the electric stirrer into the bottle; the lower end of the stirring rod shall be about 0.5cm~1cm away from the bottle bottom; stir the specimen into paste state at the speed of 3000r/min, and stir for 5min.

Add certain volume of carbon disulfide (recommended the short-yarn cotton pulp board of 5mL, long-yarn cotton pulp board of 7mL, hemp pulp board of 5mL, wood pulp board of 8mL, and bamboo pump board of 11mL), tighten the stopper; place the bottle onto the Kahn oscillator, oscillate for 15min along the bottle axis; then yellowing for 4h on the yellowing box. Then the required viscose is obtained.

8.4 Determination of reaction property

In the clean and dry stainless steel or plastic tube, the lower end of the tube is equipped with screw cap and two rubber washers; loosen the screw cap, place the 10000