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**TEXTILE INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

FZ/T 50010.4-2011

**Pulp board for viscose fiber. Determination of alpha cellulose
content**

粘胶纤维用浆粕 甲种纤维素含量的测定 清晰版

(English Translation)

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1 Scope

This standard specifies the method for the determination of the alpha cellulose content of viscose fiber pulp.

This standard applies to all kinds of viscose fiber pulp, including cotton pulp, wood pulp, bamboo pulp, hemp pulp, 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) is applicable to this standard.

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 Textile - Man-made fibers - Part 1: Generic name

GB/T 8170 Rules of rounding off for numerical values & expression and judgement of limiting values

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 terms and definitions, as defined in GB/T 3291.1, GB/T 3291.3, GB/T 4146.1, as well as the following terms and definitions, apply to this document.

3.1

alpha-cellulose

The cellulose part, which has a higher degree of polymerization AND cannot be

7.1 Sampling

Carry out sampling, in accordance with the provisions of FZ/T 50010.1.

7.2 Test environment

Temperature $(20 \pm 2) ^\circ\text{C}$.

8 Test procedures

Weigh about 2 g (accurate to 0.0001 g) of each specimen, that has been conditioned and balanced. Put it into a 100 mL beaker. At the same time, weigh two sets of specimens, to measure and analyze the moisture, according to the provisions of FZ/T 50010.2. Add about 15 mL of 17.50% sodium hydroxide solution, at $(20 \pm 1) ^\circ\text{C}$. Use a flat-headed glass rod, to stir it carefully, for 30 circles for about 30 s, to make the specimen into a uniform paste. Then add about 15 mL of the above solution. Carefully stir it for 10 circles, for about 10 s. Vigorous stirring shall be avoided. Cover the surface glass dish.

Put it into a constant temperature water bath at $(20 \pm 1) ^\circ\text{C}$, for mercerizing treatment for 45 min (from the first addition of lye). Then add 30 mL of $(20 \pm 1) ^\circ\text{C}$ distilled water, into the beaker. Stir carefully for 12 circles, for about 12 s. Turn on the vacuum pump, to let it slowly suck and filter. Then move the slurry in the beaker, into the sand core crucible, which has reached constant weight. Spread it evenly. Under weak vacuum filtration, use 75mL of 9.50% sodium hydroxide solution, at $(20 \pm 1) ^\circ\text{C}$, to rinse it three times (25 mL each time). In each rinsing, when the previous washing solution is completely filtered out, add a new washing solution AND turn the sample over and wash it, to spread it evenly. The total washing time is 2 min ~ 3 min. When all the washing liquid is filtered out, use $(20 \pm 1) ^\circ\text{C}$ distilled water to rinse it several times, until the detection shows a neutral reaction. After rinsing, continue to filter the water, until there is no water drip at the lower end of the filter, when the specimen is tightly pressed by a flat-headed glass rod.

Remove the sand core crucible. Use distilled water to rinse the outside. Put it into an oven at $(105 \pm 3) ^\circ\text{C}$, to dry it to constant weight. The increased mass of the sand core crucible is the mass of alpha-cellulose. When the difference, between two consecutive weighings is

not greater than 0.1% of the original specimen mass, it can be considered that the constant weight has been reached.

9 Result calculation

The content, of alpha-cellulose in pulp for viscose fiber, is calculated according to formula (1):

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