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Paper underpants

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Paper underpants

1 Scope

This Standard specifies classification, requirements, test methods, inspection rules and marks, packaging, transportation, and storage for paper underpants (disposable underpants).

This Standard is application to paper underpants (disposable underpants) made of thin non-woven fabric.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 1545-2008, *Paper board and pulp - Determination of acidity or alkalinity*

GB/T 2828.1, *Sampling procedures for inspection by attributea - Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection*

GB/T 10739, *Paper, board and pulps - STANDARD atmosphere for conditioning and testing*

GB/T 12914, *Paper and board - Determination of tensile properties*

GB 15979, *Hygienic Standard for Disposable Sanitary Products*

GB/T 17592, *Textiles - Determination of the banned azo colorants*

3 Classification

Paper underpants is divided into three types: small, medium, and large according to size. Other types of paper underpants can also be produced according to the order contract.

4 Requirements

4.1 Appearance quality requirements

The air permeability is determined in accordance with Annex A.

5.4 Determination of pH

The pH is determined according to the pH meter method in GB/T 1545-2008. Use cold extraction. In the extraction process, the conical flask containing the specimen needs to be oscillated on a shaker (the oscillation rate is 60 times/min for reciprocating type, and 30 cycles/min for rotating type) for 1h.

5.5 Determination of color fastness

Take 2 pieces of paper underpants at random. Take part of the specimen from each piece (not including elastic band). Take 1g of specimen in total. Cut the specimen into small pieces. Put it in a 200mL beaker. Then pour 100mL of normal saline with a temperature of $25^{\circ}\text{C}\pm 5^{\circ}\text{C}$ (a solution prepared by adding 9g of NaCl to 1000mL of distilled water). Stir gently with a glass rod to fully soak the specimen for 30min. Take two 50mL clean test tubes. Pour 50mL of soaking solution into one of the test tubes. Pour 50mL of distilled water into another test tube. Observe the color of the liquid in the two test tubes. If there is a color difference, it is judged that the soaking liquid is dyed, otherwise, it is judged that the soaking liquid is not dyed.

5.6 Determination of microbial indicators

The determination of microbial indicators is carried out in accordance with GB 15979.

5.7 Appearance quality inspection

The appearance quality is inspected visually.

5.8 Determination of decomposable aromatic amine dyes

Decomposable aromatic amine dyes are determined according to GB/T 17592. The detection limit is 20mg/kg.

6 Inspection rules

6.1 Take one delivery as a batch. The unit of inspection sample is piece. Each batch shall not exceed 500 pieces.

6.2 The manufacturer shall ensure that the paper underpants produced meets the requirements of this Standard or the order contract. Each product shall be accompanied by a certificate of conformity when it is delivered.

6.3 If the hygiene indicator of the paper underpants is unqualified, the batch is judged to be unacceptable.

the purchaser is responsible for processing. If it does not meet the requirements of this Standard or the order contract, the batch is deemed unacceptable, and the supplier is responsible for processing.

7 Marks, packaging, transportation, storage

7.1 Product sales marks and packaging

7.1.1 The sales package of the product shall indicate the following:

- a) Product name, executive standard number, trademark;
- b) Name, address, and contact information of the manufacturer;
- c) Product specifications and quantity;
- d) Production date and shelf life or production batch number and expiration date;
- e) Main production raw materials.

7.1.2 The sales packaging of the product shall be able to ensure that the product is not contaminated. The various identification information on the sales package shall be clear and not easy to fade. Each piece of paper underpants is individually packaged.

7.2 Product transportation and storage

7.2.1 The finished product with sales packaging is placed in the packaging box. The packaging box shall be marked with the product name, the name and address of the company (or dealer), and the quantity inside. The shipping and storage conditions shall be marked on the packing box.

7.2.2 Use clean tools with protective measures during transportation for the products. Prevent heavy pressure, sharp objects collision, sun and rain.

7.2.3 The finished product shall be stored in a dry and ventilated room that is not exposed to direct sunlight. Prevent rain and snow and the influence of ground moisture. It shall not coexist with polluting or toxic chemicals.

Annex A

(normative)

Determination of air permeability

A.1 Principle

Under the specified pressure difference condition, measure the air flow rate vertically through a given area of the specimen within a certain period of time. Calculate the air permeability. The air flow can be measured directly or calculated by measuring the pressure difference between the two sides of the flow aperture.

A.2 Instruments

A.2.1 Specimen round table: Circular vent with test area of 5cm², 20cm², 50cm² or 100cm². The test area error shall not exceed $\pm 0.5\%$. Appropriate specimen support nets shall be provided for vent holes with larger test areas.

A.2.2 Fixture: It shall be able to fix the specimen flatly and ensure that the edge of the specimen does not leak.

A.2.3 Rubber gasket: To prevent air leakage, it is consistent with the fixture (A.2.2).

A.2.4 Pressure meter or pressure gauge: Connected to the test box, it can indicate that the pressure drop on both sides of the sample is 50Pa, 100Pa, 200Pa or 500Pa. The measurement accuracy is at least 2%.

A.2.5 Stable air suction device (fan): Can make the air with standard temperature enter the specimen round table and can make the air flow through the specimen produce a pressure drop of 50Pa~500Pa.

A.2.6 Flow meter, volume meter or measuring aperture: Can display the flow of air flow, the unit is dm³/min (L/min). The measurement accuracy does not exceed $\pm 2\%$.

NOTE 1: As long as the flow meter and volume meter can meet the accuracy requirements of $\pm 2\%$, the measured air flow can also be expressed in cm³/s or other appropriate units.

NOTE 2: Use a differential pressure flow meter to check whether the difference between the measured air permeability and the air permeability calibrated by the calibration plate is within 2%.

A.3 Test conditions

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