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NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA

ICS 55.040

A 82

GB/T 18706-2008

Replacing GB 18706-2002

Paper Based Laminated Material for Fresh-Keeping

Packaging of Liquid Food

液体食品保鲜包装用纸基复合材料

Issued on: June 25, 2008

Implemented on: December 01, 2008

Issued by: General Administration of Quality Supervision, Inspection and Quarantine;

Standardization Administration of the People's Republic of China.

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Paper Based Laminated Material for Fresh-Keeping Packaging of Liquid Food

1 Scope

This Standard specifies the classification, requirements, test methods, inspection rules, marking, packaging, transportation and storage of paper based laminated materials for fresh-keeping packaging of liquid food.

This Standard is applicable to the composite material used for the fresh-keeping packaging of liquid food, which is made of base paper and composited with plastic.

This Standard is also applicable to the composite material used for hot filling of liquid food, which is made of base paper and composited with plastic, aluminum foil or other barrier materials.

2 Normative References

The provisions in following documents become the provisions of this Standard through reference in this Standard. For dated references, the subsequent amendments (excluding corrigendum) or revisions do not apply to this Standard, however, parties who reach an agreement based on this Standard are encouraged to study if the latest versions of these documents are applicable. For undated references, the latest edition of the referenced document applies.

GB/T 191 Packaging - Pictorial Marking for Handling of Goods (GB/T 191-2008, ISO 780:1997, MOD)

GB/T 1038 Plastics Film - Determination of Gas Transmission (GB/T 1038-2000, neq ISO 2556:1997)

GB/T 1040.3 Plastics - Determination of Tensile Properties - Part 3: Test Conditions for Films and Sheets (GB/T 1040.3-2006, ISO 527-3:1995, IDT)

GB/T 2679.3 Paper and Board - Determination of Resistance Bending (GB/T 2679.3-1996, eqv ISO 2493:1992)

GB/T 2828.1-2003 Sampling Procedures for Inspection by Attribute - Part1: Sampling Schemes Indexed by Acceptance Quality Limit (AQL) for Lot-by-Lot Inspection (GB/T 2828.1-2003, ISO 2859-1:1999, IDT)

GB/T 4789.2-2003 Microbiological Examination of Food Hygiene - Detection of Aerobic Bacterial Count

GB/T 4789.3-2003 Microbiological Examination of Food Hygiene – Detection of Coliform Bacteria

GB/T 4789.15-2003 Microbiological Examination of Food Hygiene - Examination of Molds and Yeasts

GB/T 5009.60 Method for Analysis of Hygienic Standard of Products of Polyethylene, Polystyrene and Polypropylene for Food Packaging

GB/T 8808 Test Method for Peel Force of Flexible Laminated Plastics

GB 9685 Hygienic Standards for Uses of Additives in Food Containers and Packaging Materials

GB 9687 Hygienic Standard for Polyethylene Products Used as Food Containers and Table Wares

GB/T 10004-1998 Laminated Retort Film and Pouch (eqv JIS Z 1707:1995)

GB 11680 Hygienic Standard of Paper Used for Food Packaging

QB/T 2358 Test Methods for Thermal Sealing Strength of Plastic Film Packaging Bag

3 Terms and Definitions

For the purposes of this Standard, the following terms and definitions apply.

3.1 Liquid food

Liquid food that can flow in pipes. Includes granular and sauce-like foods in liquids.

3.2 Fresh keeping packaging

The packaging that packs and seals the sterilized liquid food in a sterilized or unsterilized container, and the fresh and hygienic characteristics of the liquid food is maintained by low temperature refrigeration.

3.3 Longitudinal sealing

The sealing method in which the outer surface of the material and the inner surface of the material are in contact with each other.

3.4 Sealing strip

take the flat material for testing.

7.4.2 Sealing strength

The sealing strength shall be tested according to the provisions of QB/T 2358. The heat-sealing conditions of the material are provided by the manufacturer according to the material characteristics. When taking the longitudinal sealing strength test, it is allowed to seal the sealing strips that meet the conditions of use at the same time. The test speed is 100mm/min.

7.4.3 Peeling strength of inner plastic film

The peeling strength of the inner plastic film shall be inspected in accordance with the provisions of GB/T 8808.

7.4.4 Oxygen permeability

The oxygen permeability shall be inspected according to the provisions of GB/T 1038.

7.4.5 Stiffness

The stiffness shall be inspected in accordance with the provisions of GB/T 2679.3.

7.5 Hygienic indicators

7.5.1 Hygiene indicators of inner plastic film

The hygienic indicators of the inner plastic film is in accordance with the provisions of GB/T 5009.60. The material can be folded into a topless cube container; and only the inner surface that is in direct contact with the food shall be inspected.

7.5.2 Solvent residuals

The solvent residuals shall be checked according to the provisions in 5.7 of GB/T 10004-1998.

7.5.3 Microbiological inspection on the contact surface between material and food

7.5.3.1 Cut the specimen along the longitudinal seam in a sterile room; cut it into the largest rectangle; and measure the area, accurate to 0.1cm^2 . Take 100 mL of sterile water; wipe the surface to be tested repeatedly with sterile cotton soaked in sterile water; put the cotton ball back into the sterile water; and shake well. Then inspect the total plate count, coliform, pathogen and mold according to GB/T 4789.2, GB/T 4789.3 and GB/T 4789.15.

7.5.3.2 Calculate the total plate count per square centimeter according to the specimen area.

7.5.3.3 Make three parallel specimens and calculate the average of the total plate count, accurate to one digit after the decimal point.

8.4 Judgment

8.4.1 Judgment of sample unit

A box is taken as a sample unit; if one box is a sample unit, and all items are qualified, then the sample unit is qualified.

8.4.2 Judgment of qualified items

8.4.2.1 Appearance quality and size deviation shall be determined according to Table 6.

8.4.2.2 If there are any unqualified items in the quantification and physical and mechanical properties inspection of the inner plastic film, double quantities of samples shall be taken from the original batch of products to re-inspect the unqualified items. If the re-inspection results are all qualified, the batch of products shall be qualified in the quantification and physical and mechanical properties of the inner plastic film; if the re-inspection is still unqualified, the batch of products is unqualified.

8.4.2.3 If one of the hygienic indicators is unqualified, the batch of products is unqualified.

8.4.3 Judgment of qualified batch

If the products are all qualified according to 8.4.2.1, 8.4.2.2 and 8.4.2.3, the batch of products shall be qualified.

9 Marking, Packaging, Transportation and Storage

9.1 Marking

The marking shall comply with the provisions of GB/T 191. There shall be a qualified mark on the outer packaging of the product, indicating the product name, specification, quantity, batch number, manufacturer, production date, etc.

9.2 Packaging

The products are packaged in cartons, which shall be complete, sealed, and undamaged. Other packaging methods can be agreed upon by both parties.

9.3 Transportation

When transporting, it shall be handled with care to prevent mechanical collision or contact with sharp objects, prevent sun and rain, and be free from contamination.

9.4 Storage

The products shall be stored in a clean, dry and ventilated warehouse; away from heat and pollution sources; and it is strictly forbidden to mix with toxic and harmful substances. The

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