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**Blow-moulded polyethylene containers for packaging of food
stuffs**

食品包装用聚乙烯吹塑容器

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Blow-moulded polyethylene containers for packaging of food stuffs

1 Scope

This document specifies the requirements, test methods, inspection rules, marking, packaging, transportation, and storage of polyethylene blow-moulded containers for food packaging.

This document is applicable to blow-moulded containers for food packaging with a nominal capacity of 1000 L and less, which are made by using polyethylene as the main raw material and are formed by using the hollow blow-moulding process.

2 Normative references

The following documents contain the provisions which, through normative reference in this document, constitute the essential provisions of this document. For the dated referenced documents, only the versions with the indicated dates are applicable to this document; for the undated referenced documents, only the latest versions (including all the amendments) are applicable to this document.

GB/T 2035 Terms and definitions for plastics

GB/T 2828.1-2012 Sampling procedures for inspection by attributes - Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection

GB/T 2918 Plastics - Standard atmospheres for conditioning and testing

GB/T 4857.5-1992 Packaging - Transport packages – Vertical impact test method by dropping

GB 5009.2-2016 National Food Safety Standard - Determination of Relative Density of Foods

GB 5009.156 National Food Safety Standard - General principle of migration test pre-treatment method of food contact materials and their products

GB/T 9174 General specification for transport packages of general cargo

GB/T 16288 Marking of plastics products

Inject water with a temperature of $(20\pm 5)^\circ\text{C}$ into the sample according to the nominal capacity and tighten the cover. For containers with an inner diameter of the injection port ≤ 70 mm, lie down on a horizontal surface (the container mouth is close to the ground), and inspect it after 4 hours; for containers with an inner diameter of the injection port > 70 mm, tilt the container mouth upward within a 45° range, and inspect the container after it is shaken to and fro 20 times at a constant speed of 110 s/time~130 s/time. The number of test samples is 3.

5.8 Drop performance test

The test is carried out in accordance with the regulations of GB/T 4857.5-1992. Inject water or solids with a temperature of $(20\pm 5)^\circ\text{C}$ into the sample according to the capacity agreed on between the supplier and the buyer and tighten the cover. The drop height shall comply with the requirements in Table 8. The same sample is dropped three times in a row, and the number of test samples is 3.

5.9 Stacking performance test

Three test containers shall be randomly selected, each test container shall be filled with water to the nominal capacity, and sealed to the nominal torque with conventional seals (when the viscosity of the packaged liquid is expected to be high, a liquid with similar viscosity should be used as the test medium). Stack 3 containers in a 1×3 arrangement and place them on a hard, flat surface with no support on all sides. Check after 48 hours at room temperature.

5.10 Suspension performance test

After injecting water of $(20\pm 5)^\circ\text{C}$ with a nominal capacity into the sample, load a fixed load of no less than 0.5 times the nominal capacity weight on the bottom or top of the sample, and use a U-shaped hook with a diameter of 8 mm~12 mm and a radius of curvature of 40 mm to hang the center part of the sample handle; hang it for 15 minutes, then put it down, remove the load, and let it stand for 5 minutes before inspecting it. The number of test specimens is 3.

5.11 Resistance to internal liquid test

Inject the nominal capacity of the food of the intended category or food simulant into the sample (see Table 9 for the selection of simulants). According to the container specifications, place it in an environment of $(60\pm 5)^\circ\text{C}$ for 10 days or in an environment

6.2 Type inspection

Type inspection items are all items specified in Chapter 4. Type inspection is required under one of the following circumstances:

- a) Trial prototype identification for new products or when the production of old products is transferred to another factory;
- b) During formal production, if there are major changes in structure, materials, and processes, which may affect product performance;
- c) When production is resumed after suspension for half a year;
- d) During normal production, batch products shall be sampled for inspection at least once a year.

6.3 Judgment rules

6.3.1 Judgment rules for sealing performance, drop performance, and suspension performance: If all three samples meet the corresponding requirements in 4.6, the item will be judged to be passed, otherwise the item will be judged to be failed.

6.3.2 Judgment rules for factory inspection: All items shall be inspected one by one according to the requirements of this document. If one item does not meet the requirements, the sample will be judged to be unqualified. When the number of unqualified products is greater than or equal to the number of unqualified products specified in Table 10, the batch of products is judged to be unqualified.

6.3.3 Type inspection judgment rules: When the inspection of all items in 6.2 is carried out, if one of the items does not meet the requirements, the sample will be judged to be unqualified. If one sample fails, the batch fails.

7 Marking, packaging, transportation, and storage

7.1 Marking

Product labels and identification shall comply with relevant laws and regulations on food packaging. The name of the raw resin, product name, nominal capacity, quantity,

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