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General quality of biscuit

饼 干 质 量 通 则

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General quality of biscuit

1 Scope

This standard specifies the terms and definitions, product classification, technical requirements, test methods, inspection rules, labeling, packaging, transportation and storage of biscuits.

This standard applies to biscuits and biscuit crumbs.

2 Normative references

The following documents are essential for the application of this document. For any dated referenced document, only the dated version applies to this document. For any undated referenced document, the latest version (including all amendments) applies to this document.

GB/T 601 Chemical reagent - Preparations of reference titration solutions

GB 5009.3 National food safety standard - Determination of moisture in foods

GB 5009.6 National food safety standard - Determination of fat in foods

GB 5009.237 National food safety standard - Determination of pH value of food

GB/T 12456 National food safety standard - Determination of total acid in foods

JJF 1070 Rules of Metrological Testing for Net Quantity of Products in Prepackages with Fixed Content

Measures for the Supervision and Management of Quantitative Packaging Commodities (Order No. 75 of the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China [2005])

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 biscuit

The foods that are made with cereal flour (and/or bean and potato flour) as the main raw materials, with or without sugar, oil and other ingredients, and processed through

mixing powder (or mixing batter), forming, baking (or frying), etc., as well as foods with other ingredients added between (or on the surface of, or inside) the products before and/or after baking.

3.2 biscuit crumb

Biscuit particles made by dicing or crushing biscuits, with or without sieving.

4 Product categories

4.1 Short biscuits

Biscuits that are made from cereal flour (and/or bean and potato flour) as the main raw materials, with oil, or with or without sugar and other ingredients, and made through cold powder mixing, forming and baking. The cross-sectional structure is porous and the taste is crumbly or crispy.

4.2 Semi hard biscuits

Biscuits that are made from cereal flour (and/or bean and potato flour) as the main raw materials, with or without sugar, oil and other ingredients, and made through hot powder mixing, rolling, forming and baking. They usually have pinholes, layered cross-sections and a crispy taste. The semi hard biscuits that easily absorb water and swell when placed in water are called brewing-type semi-hard biscuits.

4.3 Fermented biscuits

Biscuits that are made from cereal flour, oil, etc. as the main ingredients, with or without other ingredients, and through mixing powder, fermentation, rolling, forming, and baking. It is crumbly or crispy, and has the unique aroma of fermented products.

4.4 Compressed biscuits

Biscuits that are made by crushing the biscuit base and mixing and compressing it with other ingredients such as oil and sugar; the biscuit base are made from cereal flour (and/or bean and potato flour) as the main raw materials, with or without sugar, oil and other ingredients, and through cold powder mixing, forming and baking.

4.5 Cookies

Crispy biscuits that are made from cereal flour, sugar, oil, etc. as the main raw materials, with or without dairy products and other ingredients, and through mixing by cold powder process, forming by one of the methods of extrusion, cutting or roller printing, and then baking. Cookies with a soft texture and with or without syrup are called soft cookies.

4.6 Sandwich (or filled) biscuits

Biscuits that are made by adding fillings between pieces (or in the hollow part of biscuits). Sandwich biscuits with high water content jam or sauce as fillings are called sauce-type sandwich biscuits.

4.7 Wafer

A two-layer or multi-layer biscuit that is usually with fillings such as sugar and fat added or injected between the single or multiple pieces; among which, the biscuit pieces are porous sheets, rolls or other shaped single-piece biscuits that are made from cereal flour as the main raw material, with other ingredients, and through batter mixing, pouring and baking.

4.8 Macaroon

Biscuits that are made from cereal flour, sugar, eggs and egg products as the main ingredients, with or without other ingredients, through beating, mixing, extruding and baking.

4.9 Egg roll

Biscuits that are made from cereal flour (and/or bean and potato flour), eggs and egg products as the main ingredients, with or without sugar, oil and other ingredients, and through batter-mixing, pouring or pasting, and baking.

4.10 Crisp film

Biscuits that are made from cereal flour (and/or bean and potato flour), eggs and egg products as the main ingredients, with or without sugar, oil and other ingredients, through mixing batter or powder, pouring or pasting with batter, and frying and baking.

4.11 Decoration biscuits

Biscuits that are decorated by adding other ingredients to the surface through one or more processes such as coating, spraying, and piping and pasting.

4.12 Sponge biscuits

Biscuits that are made from wheat flour, sugar, eggs and egg products as main raw materials, with or without other ingredients, and through mixing powder, multiple rolling, forming, hot water blanching, cold water soaking and baking, which have a loose and light texture and strong egg aroma.

4.13 Other biscuits

Other biscuits except categories specified in 4.1~4.12.

7.1.2 Sampling method and quantity

Randomly select samples from the finished products, and the sampling quantity shall meet the requirements of inspection and retention.

7.2 Inspection classification

7.2.1 Factory inspection

7.2.1.1 Products shall be inspected batch by batch before leaving the factory. For products of the same variety but in different packages, the inspection items that are not affected by the packaging specifications and packaging forms can be inspected together.

7.2.1.2 Items for factory inspection include sensory, net content and moisture.

7.2.2 Type inspection

7.2.2.1 Products produced all year round shall be subject to type inspection once a year; the type inspection shall be carried out in any of the following circumstances:

-- During the trial production and evaluation of new products;

-- When there are major changes in raw materials or processes that may affect product quality;

-- When the production is resumed after suspension for more than one year;

-- When there is a significant difference between the factory inspection result and the last type inspection result;

-- When the national supervisory authority requires a type inspection.

7.2.2.2 Type inspection includes all items of this standard.

7.3 Judgment rules

7.3.1 Factory inspection judgment rules: If all factory inspection items meet this standard, the batch of products shall be judged to meet this standard. If there are unqualified items in the factory inspection, samples can be taken for re-inspection. If they are still unqualified after re-inspection, the batch of products shall be judged to be non-compliant with this standard.

7.3.2 Type inspection judgment rules: If all the type inspection items comply with this standard, the type inspection result is judged to comply with this standard. If there are unqualified items in the type inspection, samples can be taken for re-inspection. If they are still unqualified after re-inspection, the type inspection result is judged to be not in compliance with this standard.

8 Labeling, packaging, transportation and storage

8.1 Labeling

The classification name shall be indicated on the label in accordance with the provisions of Chapter 4. Sandwich (or filled) biscuits, decoration biscuits and biscuit crumbs shall also be indicated with the classification name of the biscuit pieces.

8.2 Packaging

8.2.1 Packaging materials and containers shall be clean, non-toxic and free of odor.

8.2.2 All packages shall be complete and undamaged.

8.2.3 Packaging can be in the form of quantitative packaging and bulk-weighing sales packaging. There is no restriction on the sales method, it can be weighing or other methods.

8.3 Transportation

8.3.1 The means of transport shall be clean, dry and equipped with sun and rain protection measures.

8.3.2 During transportation, the container containing biscuits shall not be placed on its side, upside down, or under heavy pressure; it shall not be transported together with toxic, harmful, or odorous items.

8.3.3 Be careful and gentle when loading and unloading. Throwing, dropping, kicking and other bad behaviors are strictly prohibited.

8.4 Storage

8.4.1 Products shall be stored in dedicated food warehouses which shall be clean, ventilated, dry and equipped with dust-proof, fly-proof, insect-proof and rodent-proof facilities.

8.4.2 Products shall not be stored together with items that have a special odor, are easily perishable, corrupt, or are susceptible to insects.

8.4.3 Products shall be placed on pallets, and each stacking position shall be kept at a certain distance. The stacking height shall be limited to prevent collapse and damage to the outer packaging and products.

Appendix B

(Normative)

Alkalinity test method

B.1 Reagents

B.1.1 Hydrochloric acid standard solution (0.05 mol/L): It is prepared and calibrated according to the method specified in GB/T 601.

B.1.2 Methyl orange indicator solution (0.1%): Weigh 0.1 g of methyl orange and dissolve it in 70 °C distilled water, cool and dilute to 100 mL.

B.2 Apparatus

Acid burette: 25 mL.

B.3 Preparation of test specimen and test solutions

Prepare the test specimen and test solution according to the method specified in GB/T 12456.

B.4 Analysis steps

Pipette 50 mL of the test solution and place it in a 250 mL conical flask. Add two drops of methyl orange indicator solution and titrate with hydrochloric acid standard solution (0.05 mol/L) until a reddish color appears. Record the volume of hydrochloric acid standard solution consumed. At the same time, perform a blank test with distilled water.

B.5 Presentation of analysis results

The alkalinity X of the biscuit is expressed as the number of grams of sodium carbonate contained in 100 g of the specimen and is calculated according to formula (B.1):

$$X = \frac{c(V_1 - V_2) \times 0.053 \times K}{m} \times 100 \quad \cdots\cdots (B.1)$$

where

X -- alkalinity, in grams per hundred grams (g/100 g);

c -- the actual concentration of hydrochloric acid standard solution, in moles per liter (mol/L);

V_1 -- the volume of hydrochloric acid standard solution consumed when titrating

Appendix C

(Normative)

Bulk density test method

C.1 Calculation method (arbitration method)

C.1.1 Apparatus

C.1.1.1 Vernier caliper: The accuracy is 0.02 mm.

C.1.1.2 Balance: The range is 1 g~500 g, and the accuracy is 0.1 g.

C.1.2 Analysis steps

Take a sample with a volume of at least 25 cm^3, weigh its mass m (g) with a balance, and then use a vernier caliper to measure its length, width and height respectively, and calculate the volume V (cm^3) mathematically.

C.1.3 Presentation of analysis results

The bulk density P of biscuits is expressed as mass per unit volume and is calculated according to formula (C.1):

$$P = m/V \qquad \cdots\cdots (C.1)$$

where

P -- bulk density, in grams per cubic centimeter (g/cm^3);

m -- the mass of the sample, in grams (g);

V -- the volume of the sample, in cubic centimeters (cm^3).

C.1.4 Allowable difference

The difference between two measured values of the same sample shall not exceed 2% of the average value of the two measurements.

This method is only suitable for biscuits whose volumes can be calculated mathematically.

C.2 Volumetric method

C.2.1 Apparatus

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