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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 22180-2014

Replacing GB/T 22180-2008

Quick frozen fish fillets - breaded or in batter

冻裹面包屑鱼

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2 Normative references

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

The documents listed are GB 2716 on edible vegetable oil, GB 2733 on fresh and frozen animal aquatic products, GB 2760 on the use of food additives, GB 2762 on maximum levels of contaminants in food, GB 5009.3 on the determination of moisture in food, GB 5749 on drinking water, GB 7099 on pastry and bread, GB 7718 on the labelling of prepackaged food, GB/T 18108 on fresh sea fish, GB/T 18109 on frozen fish, GB/T 27304 on food safety management systems for aquatic product processing enterprises, GB 28050 on the nutrition labelling of prepackaged food, GB/T 30891-2014 on the sampling of aquatic products, JJF 1070 on the metrological inspection of the net content of prepackaged goods, and Announcement No. 235 of the Ministry of Agriculture on maximum residue limits of veterinary drugs in foods of animal origin.

3 Terms and definitions

3.1 fish stick; fish finger. A piece weighing 20 g to 50 g including the outer coating, whose length is not less than three times its greatest width. It may be made from one species of fish, or from a blend of species of similar sensory characteristics.

3.2 fish portion. A piece including the outer coating, of any shape, weight or size. It may be made from one species of fish, or from a blend of species of similar sensory characteristics.

3.3 fish fillets. Slices of fish of varying size and shape, obtained by cutting parallel to the backbone and then joining or trimming the slices so obtained. Fillets may be with or without skin.

3.4 foreign matter. Any readily identifiable substance present in the sample unit that is not part of the fish body and is not packaging material.

3.5 odour. A persistent, marked and objectionable smell given off by the sample and caused by spoilage, rancidity or feed.

3.6 flesh abnormalities. Flesh in the sample unit showing excessive gel formation, with the moisture in a single piece of flesh reaching 86 % or more, or with more than 5 % by weight of the sample infested by parasites, so that the flesh becomes pasty.

4 Requirements

4.1.1 Fish. The raw fish for the frozen breaded or battered sticks, portions and fillets shall be fresh in quality and fit for human consumption; its quality shall comply with GB/T 18108 and GB/T 18109 and its safety indexes with GB 2733.

4.1.2 Coating. The coating and all other ingredients used shall be of food grade quality and shall comply with GB 7099.

4.1.3 Oil. The edible oil shall be one able to give the product its intended finished quality and shall comply with GB 2716. During preparation and use of the batter the temperature shall be held below 10 °C.

4.1.4 Process water. Water used in processing shall comply with GB 5749.

4.2 Food additives. The types and the amounts of the food additives used in production shall comply with GB 2760.

4.3 Processing requirements. Production personnel, environment, workshop and facilities, production equipment and hygiene control procedures shall comply with GB/T 27304.

4.4 Sensory requirements are given in Table 1, a table of two columns, item and index, with six rows. Colour shall be milky white or pale yellow and substantially uniform within a batch. Form shall be flat with the shape substantially intact, the breadcrumb fluffy and of fairly uniform grain size and evenly attached, and the coating shall neither crack nor fall off after frying. For bones, in a package declared to be boneless no bone of length 10 mm or more, or of diameter 1 mm or more, shall be detectable per kilogram of product; item a) of that row permits bones of length 5 mm or less and diameter 2 mm or less, and item b) allows a bone to be disregarded where the width of its root, at the junction with the vertebra, is 2 mm or less and it can be stripped off easily with a fingernail. Taste and odour shall be those proper to the product, with no off odour, and suitably seasoned after frying. Texture shall show good elasticity of the flesh, crisp outside and tender inside after frying. There shall be no foreign matter.

4.5 Physical and chemical indexes are given in Table 2, a table of two columns and three rows: core temperature of the frozen product, -18 °C or below; fish flesh content, 50 % or more; moisture content of the fish flesh, 86 % or less.

4.6.1 Contaminants. The limits of contaminants in the coating and in the fish flesh shall comply with GB 2762.

4.6.2 Veterinary drug residues. For flesh from farmed fish, residue limits shall comply with Announcement No. 235 of the Ministry of Agriculture.

4.7 Net content. The net content shall comply with JJF 1070.

5 Test methods

5.1 Sensory examination is carried out in a well lit place free of off odours: the test sample is poured onto a white enamelled tray or a stainless steel bench and each point of 4.4 is examined in turn. a) The samples are thawed and examined one by one for appearance, colour, presence of foreign matter, bones where needed, odour and flesh abnormalities. b) Where quality cannot be judged after thawing, about 100 g of sample is taken and the frying test of 5.2 is carried out.

5.2 Frying test. 5.2.1 Frozen samples are fried according to the cooking instructions on the package. 5.2.2 Where the package carries no instructions, about 100 g of sample is used: a suitable amount of oil is poured into a pan and heated to 180 °C to 200 °C, the sample is put in and one side is fried until golden, then it is turned and the other side fried until it too

is golden, at which point the temperature inside the product reaches 65 °C to 70 °C.

5.3 Determination of the core temperature of the frozen product: a thermometer is inserted at the centre of the smallest package and read when the temperature it indicates stops falling.

5.4 The fish flesh content is determined as laid down in Annex C.

5.5 For the moisture in the fish flesh, the sample is first thawed, the flesh portion is minced and mixed, and GB 5009.3 is then applied.

5.6 For contaminants, the sample is thawed, the coating and the flesh are separated and tested separately; the test method follows GB 2762.

5.7 For veterinary drug residues, the sample is thawed and the flesh portion is taken for residue testing; the methods used are the national and industry standards published in China that apply to residue testing in fish.

5.8 The net content is tested according to JJF 1070.

6 Inspection rules

6.1.1 Batch formation. Where the raw material and the production conditions are substantially the same, the products made on one day or by one shift form one batch, and sampling is by batch number.

6.1.2 The sampling method follows GB/T 30891-2014.

6.2.1 Product inspection is divided into exit-factory inspection and type inspection.