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

**GB/T 27988-2024**

Replacing GB/T 27988-2011

**Technical specification for processing of salted fish**

咸鱼加工技术规范

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### 1 Scope

The document sets out the basic requirements for the processing of salted fish and the technical requirements of the process, and describes the corresponding methods of verification.

It applies to the production of salted fish made from fresh or frozen fish by dry salting or wet salting followed by drying.

### 3 Terms and definitions

The terms and definitions given in GB/T 36193 apply to the document; no term is defined in the document itself.

## 4 Basic requirements

4.1 Edible salt shall meet GB/T 5461, spice condiments shall meet GB/T 15691, and other auxiliary materials shall meet their respective standards.

4.2 The salting tanks shall be fitted with insulation and drainage.

4.3 The processing water shall be drinking water or clean sea water. Drinking water shall meet GB 5749; clean sea water shall meet the microbiological requirements of GB 5749 and shall be free of foreign matter.

## 5 Requirements for the processing operations

5.1 Process flow. The process flow for salted fish is shown in Figure 1. The figure itself is not reproduced in the extracted text.

5.2 Acceptance of the raw fish. The raw fish shall be of good quality and free of contamination. Fresh sea fish shall meet GB/T 18108 and frozen fish GB/T 18109, and the supplier shall provide information on the origin of the material and evidence of supply. Every batch of raw fish shall be inspected on arrival and may be accepted only after passing. Accepted raw fish shall be stored by species and processed as soon as possible; where fresh fish cannot be processed at once the body temperature should be held below 10 °C, and frozen fish are held in a cold store at not more than minus 18 °C and processed in good time on a first in, first out basis.

5.3 Thawing. Frozen fish shall be thawed first, either in air or in water. In air thawing the room temperature should not exceed 18 °C and the body surface shall be kept from drying out; in water thawing the body temperature should not exceed 10 °C.

5.4 Selection and sorting. Foreign matter, damaged fish and fish whose sensory properties do not meet the requirements are removed. The raw fish are sorted by species and size, and fish salted in the same batch shall be of broadly the same size.

5.5 Pre-treatment. Before salting, the gills, head, viscera or scales are removed as required. Where the fish is to be split along the back, the cut runs from the dorsal side along the backbone to near the tail; where it is to be split along the belly, the cut runs from near the pectoral fin to the vent and on to near the tail; where the flesh is to be scored, the scoring is made where the flesh is thick and the spacing shall be even.

5.6 Dry salting. In dry salting the fish are laid in alternating layers of salt and fish; the gaps between fish shall be as small as possible while still allowing the liquid released during salting to drain away. The top of the pile is covered with salt and weighted down so that the fish do not float up. The mass ratio of salt to fish should be 1:10 to 1:8 for light salting and 1:3 to 1:1 for heavy salting. Where auxiliary materials are used they may be mixed evenly with the salt and added at the same time. The body temperature during salting should be

held between 0 °C and 10 °C. Where the fish in the upper layer are turned over and relaid in the lower layer during salting, fresh salt shall be added. The salting time depends on the species, size, quantity of salt, salting temperature and required salt content of the product. When salting is finished the salt and other auxiliary materials adhering to the fish shall be removed.

5.7 Wet salting. In wet salting the fish shall be fully immersed in the brine. Where saturated brine is used, the ratio of brine to fish shall be at least 1:1. Where unsaturated brine is used, the brine concentration by mass should be above 8.0 %; the brine shall be cooled to not more than 10 °C before salting and the salting temperature held between 0 °C and 10 °C. Where auxiliary materials are used they shall first be mixed evenly with the brine. The salting time depends on the species, the salting temperature and the required salt content of the fish. At the end of salting the dirt on the surface of the fish is rinsed off with brine, the fish are drained and then laid out one by one on drying racks.

5.8 Drying. Natural drying shall be done in a ventilated, dry place; the drying ground shall have protection against flies and insects, and the fish shall be turned regularly. Mechanical drying temperature should be held below 35 °C, and the position of the fish shall be changed regularly during drying. The colour and the degree of drying shall be checked regularly during drying, and the moisture content measured where necessary.

5.9 Weighing. The maximum capacity of the weighing instrument used shall not exceed five times the mass of the sample weighed, and the net content of prepackaged products shall meet JJF 1070.

5.10 Packaging and marking. Packaging and marking shall meet SC/T 3035 and shall state clearly the salt and moisture ranges and the storage conditions of the product. Products shall be packed by single species and single category and shall not be mixed. Packed products shall be arranged neatly and shall carry a certificate of conformity. The packaging shall be firm, waterproof and not easily damaged.

5.11 Metal detection. Packed products shall pass through a metal detector. Where a product containing metal is detected, it shall be set aside with a conspicuous mark and dealt with separately, and measures shall be taken to trace the source of the metal.

5.12 Storage. Products shall be stored in a cool, dry, clean warehouse free of foreign odours, protected against damp, sunlight, insect pests, contamination by harmful substances and other damage. Products of different species, categories and batches shall be stacked separately and clearly marked, on pallets at least 10 cm from the floor and at least 30 cm from the warehouse wall, the stack height being such that the cartons are not deformed by the load. Medium-salt and high-salt products should be held at not more than 4 °C, and low-salt and very-low-salt products should be stored in a cold store at not more than minus 18 °C, the store temperature fluctuating by not more than  $\pm 2$  °C.

5.13 Inspection. Every batch of processed product shall undergo delivery inspection; the

product quality shall meet GB/T 30894 and the inspection records shall be kept.

## 6 Records

6.1 A record system shall be established covering the information on receipt of raw and auxiliary materials and the information required for the processing operations. The record of receipt of raw and auxiliary materials covers the date of receipt, the origin, the species, the quantity and the outcome of inspection and acceptance for each batch. The record of the processing operations covers the production batch number, the production date, the production shift, the quantity produced, the moisture and salt ranges, the specific operations carried out, the temperature during salting, the quantity of salt or the brine concentration, abnormal occurrences during salting and how they were dealt with, and the product inspection results.

6.2 All records shall be kept for at least two years.