INTERNATIONAL STANDARD

ISO 23855

First edition
2021-09

Frozen surimi — Specification

Surimi congelé — Spécifications

Reference number
ISO 23855:2021(E)

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 6, *Meat, poultry, fish, eggs and their products.*

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Frozen surimi — Specification

1 Scope

This document specifies the requirements for frozen surimi and the test methods for its quality control. It also specifies the requirements of packaging, marking, storage and transportation.

This document is applicable to tropical and cold-water surimi.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 1442, *Meat and meat products — Determination of moisture content (Reference method)*

ISO 2917, *Meat and meat products — Measurement of pH — Reference method*

AOAC Official Method 925.05, *Sucrose in Animal Feed*

AOAC Official Method 973.28, *Sorbitol in Food Gas Chromatographic Method*

AOAC Official Method 995.11, *Phosphorus (Total) in Foods Colorimetric Method*

CAC/RCP 1, *General Principles of Food Hygiene*

CAC/RCP 8, *Code of Practice for the Processing and Handling of Quick Frozen Foods*

CAC/RCP 52, *Code of Practice for Fish and Fishery Products*

CXS 193, *General Standard for Contaminants and Toxins in Food and Feeds*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
frozen surimi
paste of fish myofibrillar protein product processed by pretreatment, cleaning and mechanically separating fish flesh from the skin and bones, and then the fish flesh is washed, minced, refined, dewatered, mixed with *cryoprotectants* (3.2) and quick frozen

Note 1 to entry: The minced fish flesh is washed and refined in order to remove the remnants of bones, scales, skins, black films, viscera, connective tissue and blood clots.

Note 2 to entry: Frozen surimi is an intermediate ingredient that can be further processed into surimi-based products.

3.2
cryoprotectant
food ingredient or food additive to reduce or prevent the frozen denaturation of fish protein during quick freezing and frozen storage

3.3
gel strength
physico-chemical index to characterize the elasticity of surimi, which is expressed by the gel-forming ability of surimi after heating under specified conditions

Note 1 to entry: Gel strength is expressed in g·cm.

3.4
spot
defect
non-exogenous impurity in surimi visible to the naked eye

Note 1 to entry: Spots are mainly tiny broken fish skins, small bones, scales and any matter other than fish flesh, which remain in the surimi during processing.

3.5
whiteness
white colour degree of surimi

Note 1 to entry: The higher the whiteness value, the greater the whiteness.

4 Requirements

4.1 Fish

The fish shall be from a fishing zone designated by the Food and Agriculture Organization of the United Nations (FAO) and captured with permitted fishing gear. Frozen surimi shall be prepared from fresh or frozen fish of a quality fit for human consumption. The eviscerated and headless fish may be used as raw materials.

4.2 Processing requirements

4.2.1 The key steps of frozen surimi processing are: fish flesh separating, washing, refining, dewatering, cryoprotectants mixing and quick freezing.

4.2.2 During the processing of surimi, the temperature of fish flesh should not exceed 10 °C, while the processing temperature for some tropical fish should not exceed 15 °C. The specific parameters of washing and dewatering shall be designed according to the fish species, freshness of raw fish and the desired quality grade of surimi. Cryoprotectants may be added in surimi and thoroughly mixed in order to prevent protein denaturation and lipid oxidation during quick freezing and frozen storage. To enhance the cryoprotection of surimi, very small quantities of egg whites may be added, but it is not permitted to introduce other animal or vegetable proteins or starch into surimi. After suitable preparation, surimi shall be quick frozen to maintain product quality. After quick freezing, the central temperature of frozen surimi shall be lower than −18 °C.

4.3 Organoleptic requirements

Frozen surimi shall conform to the requirements given in Table 1.