



RWANDA STANDARD

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Second edition

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Canned fish — Specification —

Part 1:

Canned finfish

ICS 67.120.30

Reference number

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In order to match with technological development and to keep continuous progress in industries, standards are subject to periodic review. Users shall ascertain that they are in possession of the latest edition

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Foreword

Rwanda Standards are prepared by Technical Committees and approved by Rwanda Standards Board (RSB) Board of Directors in accordance with the procedures of RSB, in compliance with Annex 3 of the WTO/TBT agreement on the preparation, adoption and application of standards.

The main task of technical committees is to prepare national standards. Final Draft Rwanda Standards adopted by Technical committees are ratified by members of RSB Board of Directors for publication and gazettment as Rwanda Standards.

RS 55-1 was prepared by Technical Committee RSB/TC 005, *Meat and meat products*.

In the preparation of this standard, reference was made to the following standard:

- 1) CODEX STAN 119: Standard for canned finfish

The assistance derived from the above source is hereby acknowledged with thanks.

This second edition cancels and replaces the first edition (RS 55-1: 2005), which has been technically revised.

RS 55 consists of the following parts, under the general title *Canned fish — Specification*:

Part 1: Canned finfish

Committee membership

The following organizations were represented on the Technical Committee on Meat and meat products (RSB/TC 005) in the preparation of this standard.

KANOMBE Sector

Ministry of Agriculture and Animal Resources (MINAGRI/RALIS)

Rwanda Consumer's Rights Protection Organization (ADECOR)

Rwanda Fisheries Sector (RFS)

University of Rwanda-College of Agriculture, Animal Science and Veterinary Medicine (UR-CAVM)

Rwanda Standards Board (RSB) – Secretariat

Canned fish — Specification — Part 1: Canned finfish

1 Scope

This Rwanda Standard specifies the requirements, sampling and test methods for canned finfish intended for human consumption.

This standard applies to canned finfish packed in media including but not limited to tomato sauce, chilli sauce, mustard sauce, water, oil or brine.

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.

AOAC 932.05, *Citric acid in milk. Gravimetric method*

AOAC 952.13, *Arsenic in food — Silver diethyldibocarbamate method*

AOAC 972.23, *Lead in fish, atomic absorption spectrophotometric method*

AOAC 973.34, *Cadmium in foods atomic absorption spectrophotometric method*

AOAC 977.13, *Histamine in sea food — Fluorometric method*

AOAC 985.16, *Official method tin in canned foods*

AOAC 983.20, *Mercury (methyl) in fish and shellfish, Gas chromatographic method*

RS ISO 936, *Meat and meat products — Determination of total ash*

RS ISO 10272-1, *Microbiology of the food chain — Horizontal method for detection and enumeration of Campylobacter spp. — Part 1: Detection method*

RS ISO 16649-2, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of beta-glucuronidase-positive Escherichia coli — Part 2: Colony-count technique at 44 degrees C using 5-bromo-4-chloro-3-indolyl beta-D-glucuronide*

ISO/TS 17919, *Microbiology of the food chain — Polymerase chain reaction (PCR) for the detection of food-borne pathogens — Detection of botulinum type A, B, E and F neurotoxin-producing clostridia*

RS 46, *Handling, processing and distribution of fish — Code of practice*

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RS CXC 1, *General principles for food hygiene*

RS CXS 192, *General standard for food additives*

RS CXS 210, *Named vegetable oils*

RS EAS 12, *Potable water — Specification*

RS EAS 35, *Fortified food grade salt — Specification*

RS EAS 38, *General requirements of labelling of pre-packaged foods*

RS EAS 66-4, *Tomato products — Specification — Part 4: Highly seasoned tomato products (sauce and ketchup)*

RS EAS 321, *Edible fats and oils — Specification*

RS EAS 893, *Chilli sauce — Specification*

RS ISO 1738, *Butter — Determination of salt content*

RS ISO 4833-1, *Microbiology of the food chain — Horizontal method for the enumeration of microorganisms — Part 1: Colony count at 30 °C by the pour plate technique*

RS ISO 6579-1, *Microbiology of the food chain — Horizontal method for the detection, enumeration and serotyping of Salmonella — Part 1: Detection of Salmonella spp.*

RS ISO 6888-1, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species) — Part 1: Technique using Baird-Parker agar medium*

3 Terms and definitions

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

3.1

finfish

fresh and marine water vertebrate fish

3.2

canned fish

fish which have been thermally processed, packed in media and sealed in an airtight container

4 Ingredients

4.1 Raw materials

The product shall be prepared from sound finfish from which the heads, tails and viscera have been removed. The raw material shall be of a quality fit to be sold fresh for human consumption.

4.2 Other ingredients

The following other ingredients may be used:

- a) fortified food grade salt complying with RS EAS 35;
- b) potable water complying with RS EAS 12;
- c) tomato sauce complying with the requirements in RS EAS 66-4;
- d) refined, pure clean deodorized edible vegetable oil complying with RS EAS 321 or specific standard where it exist, shall be used;
- e) chilli sauce complying with RS EAS 893;
- f) other media which may be used shall comply with relevant standards; and
- g) other permitted ingredients may be used and shall be of good quality.

4.3 General requirements

Canned finfish shall:

- a) be free from foreign matter;
- b) be free from persistent and distinct objectionable odours or flavours indicative of decomposition or rancidity; and
- c) be free from distinct discolouration of the flesh indicative of decomposition or rancidity or by sulphide staining of more than 5 % of the drained contents.

4.4 Specific requirements

Canned finfish shall comply with requirements in Table 1 when tested in accordance with test methods specified therein.

Table 1 — Specific requirements for canned finfish

S/N	Parameter	Requirement	Test method
i.	Total ash, %, max.	7	ISO 936
ii.	Sodium chloride in brine, % (w/v), max.	3.5	RS ISO 1738
iii.	Acidity in brine as citric acid (anhydrous), % (w/v)	0.06 - 0.20	AOAC 932.05
iv.	Drained weight, %, min.	65	Annex A

5 Microbiological requirements

Canned finfish shall comply with the microbiological requirements specified in Table 2.

Table 2 — Microbiological limits in canned finfish

S/N	Characteristic	Maximum limit	Test method
i.	Total Viable Count, CFU/g	10 ³	RS ISO 4833-1
ii.	<i>Clostridium botulinum</i> , CFU/g	Absent	ISO/TS 17919
iii.	<i>Salmonella spp.</i> , CFU/ 25g	Absent	RS ISO 6579-1
iv.	<i>Staphylococcus aureus</i> , CFU/g	Absent	RS ISO 6888-1
v.	<i>E. Coli</i> , CFU/g	Absent	ISO 16649-2
vi.	<i>Campylobacter spp.</i> , CFU/g	Absent	ISO 10272-1

6 Food additives

Food additives complying with RS CODEX STAN 192 may be used.

7 Contaminants

7.1 Pesticides residues

Canned finfish shall comply with those maximum pesticide residues established by the Codex Alimentarius Commission.

7.2 Histamine levels

When tested in accordance with AOAC 977.13, the level of Histamine in canned finfish shall not exceed 10 mg/100 g.

7.3 Heavy metals

Canned finfish shall not contain heavy metals in excess of the limits stipulated in Table 3 when tested in accordance with test methods specified therein.

Table 3 — Limits for heavy metals in canned fish

S/N	Heavy metal	Maximum limit (mg/kg)	Test method
i.	<i>Arsenic</i>	0.1	AOAC 952.13
ii.	<i>Lead</i>	0.3	AOAC 972.23
iii.	<i>Cadmium</i>	0.3	AOAC 973.34
iv.	<i>Mercury as Methyl mercury</i>	0.5	AOAC 983.20
v.	<i>Tin</i>	50 250 (when packaged in tin cans)	AOAC 985.16

8 Hygiene

Canned finfish shall be prepared and handled in accordance with RS CAC/RCP 1 and RS 46.

9 Packaging

Canned finfish shall be packaged in food grade containers which shall safeguard the quality of the product.

The container shall be filled with fish and packing medium not less than 90 % of the water capacity of the container. See Annex B for the determination of the fill of the container.

10 Labelling

In addition to the requirements specified in RS EAS 38, the following requirements shall apply:

- a) name of product;
- b) name of the packing medium if used;
- c) physical address of the processor/packer;
- a) list of ingredients;
- b) date of packaging and expiry date;
- c) lot number;
- d) instructions for use;
- e) storage conditions;
- f) country of origin;

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g) net weight; and

h) drained weight.

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Annex A (normative)

Determination drained weight

Annex B Apparatus

BS sieve No. 8.

Annex C Procedure

A.2.1 Weigh the unopened container (m_1). Partially cut out the lid and transfer the contents of the can to the clean and dry sieve, which had been weighed accurately (m_2). Allow to drain for at least five minutes and weigh the sieve with the contents (m_3). The difference between the weight of the sieve with the contents and the empty sieve gives the drained weight

A.2.2 Wash, dry and weigh the empty can complete with the lid (m_4). The difference between the unopened can (A.2.1) and the weight of the empty container and lid gives the net weight of the contents.

Annex D Calculations

The drained weight is calculated as the percentage of the weight of the contents of the can.

$$\text{Drained weight, percent} = \frac{m_3 - m_2}{m_1 - m_4} \times 100$$

Where

m_1 the weight of unopened can;

m_2 the weight of the sieve;

m_3 the weight of the sieve and contents, and

m_4 the weight of empty can.

Annex E (normative)

Determination of fill of container

Annex F Apparatus

B.1.1 Top pan balance

B.1.2 Rotary can opener

Annex G Procedure

B.2.1 The container selected shall be undamaged in all respects. Carefully open the container and note the level of the contents by means of a pencil mark on the internal surface of the can. Wash, dry and weigh the container.

B.2.2 Fill the container with distilled water at 20 °C to the height of the contents. Weigh the container plus the water. Subtract the weight of the container from this weight to give the weight of water equivalent to the volume of the contents

B.2.3 Fill the container with additional water at 20 °C a distance of 4.76 mm below the top level of the container if the container has a double seam. (For other containers, fill up to the top of the container.) Weigh the container plus the water. Subtract the weight of the container from this weight to give the weight of the equivalent to the full volume of the container.

Annex H Calculation

Fill of container, per cent mass of remaining water.

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