



DRAFT EAST AFRICAN STANDARD

Biscuits — Specification

EAST AFRICAN COMMUNITY

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Foreword

Development of the East African Standards has been necessitated by the need for harmonizing requirements governing quality of products and services in the East African Community. It is envisaged that through harmonized standardization, trade barriers that are encountered when goods and services are exchanged within the Community will be removed.

The Community has established an East African Standards Committee (EASC) mandated to develop and issue East African Standards (EAS). The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the public and private sector organizations in the community.

East African Standards are developed through Technical Committees that are representative of key stakeholders including government, academia, consumer groups, private sector and other interested parties. Draft East African Standards are circulated to stakeholders through the National Standards Bodies in the Partner States. The comments received are discussed and incorporated before finalization of standards, in accordance with the Principles and procedures for development of East African Standards.

East African Standards are subject to review, to keep pace with technological advances. Users of the East African Standards are therefore expected to ensure that they always have the latest versions of the standards they are implementing.

The committee responsible for this document is Technical Committee EASC/TC 014 *Cereals, pulses and their derived products*.

This third edition cancels and replaces the second edition (EAS 781: 2024), which has been technically revised.

Attention is drawn to the possibility that some of the elements of this document may be subject of patent rights. EAC shall not be held responsible for identifying any or all such patent rights.

Biscuits — Specification

1 Scope

This draft East African Standard specifies requirements, sampling and test methods for biscuits intended for human consumption. This standard also covers crackers, wafers and cookies.

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.

CXS 192, *General standard for food additives*

CXS 193, *General standard for contaminants and toxins in food and feed*

EAS 38, *General standard for the labelling of pre-packaged foods*

EAS 39, *Hygiene in the food and drink manufacturing industry — Code of practice*

ISO 712, *Cereals and cereal products — Determination of moisture content — Reference method*

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

ISO 7305, *Milled cereal products — Determination of fat acidity*

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 21527-2, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of yeasts and moulds — Part 2: Colony count technique in products with water activity less than or equal to 0.95*

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 <http://www.iso.org/obp>

3.1

biscuit

shaped baked flour confectionery product characterized by a crispy texture

3.3

plain biscuits

biscuits which are not filled or coated

3.4

coated biscuits

biscuits glazed with chocolate, caramel or any other similar ingredients

3.5

filled biscuit

a single biscuit with a filling of either cream, jam, jelly, caramel, dried fruits or any other filling materials completely enclosed within the baked product or two or more baked biscuits with a filling layered between them, forming a sandwich structure.

Note: the outer biscuit shell surrounds the soft or flavoured centre until it is bitten into.

3.6

crackers

biscuits which in general show a typical flaky inner layer; may be fermented or non-fermented; oil- dipped or not and may be or may not be sprinkled with salt

3.7

wafer

very thin, light, crisp biscuit

3.8

cookie

baked product generally made from a soft, thick dough characterised by either a crispy or chewy and denser texture

4 Types and categories of biscuits

4.1 Types of biscuits

- a) Plain;
- b) Filled;
- c) Coated; and

4.2 Categories of biscuits

- a) Crackers;
- b) Wafers; and
- c) Cookies.

5 Requirements

5.1 Ingredients

5.1.1 Essential ingredients

The following essential ingredients shall be used in the preparation of biscuits and shall comply with relevant standards:

- a) flour;
- b) shortening, edible oil or fat; and
- c) potable water.

5.1.2 Optional ingredients

In addition to the essential ingredients given in 5.1.1, optional ingredients complying with the relevant standards shall include but not limited to the following:

- a) cereals and cereal products;
- b) starch;
- c) oilseeds and oilseed products;
- d) milk and milk products;
- e) nutritive sweeteners;
- f) fruit, vegetable and related products;
- g) spices and condiments;
- h) cocoa and cocoa products;
- i) coffee and coffee products;
- j) tea and tea products;
- k) eggs;
- l) salt; and
- m) leavening agents.

5.2 General requirements

Biscuits shall:

- a) be properly baked so that they are crisp, have uniform texture and are free from a burnt taste and appearance;
- b) have a typical flavour of well-baked biscuits;
- c) be free from any soapy or bitter after-taste; and

- d) be free from fungal and insect infestation, rancid taste and odour.

5.3 Specific requirements

Biscuits shall comply with the specific requirements given in Table 1 when tested in accordance with the test methods specified therein.

Table 1 — Specific requirements for biscuits

S/N	Parameter	Requirement				Test method
		Biscuits	Cookies	Wafers ^a	Crackers	
i.	Moisture, % by mass, max.	6.0				ISO 712
ii.	Acid insoluble ash on dry basis, % by mass, max.	0.2	0.1	0.2	0.2	Annex A
iii.	Acidity of extracted fat (as oleic acid), % by mass, max.	2.0	2.5	1.0	1.0	ISO 7305

^a Each pack of wafers shall not have more than 5 % broken pieces.

6 Food additives

Food additives when used in the preparation of biscuits shall comply with CXS 192.

7 Hygiene

7.1 Biscuits shall be manufactured and handled in accordance with EAS 39.

7.2 Biscuits shall comply with the microbiological requirements given in Table 2 when tested in accordance with the test methods specified therein.

Table 2 — Microbiological limits in biscuits

S/N	Microorganism	Limit	Test method
i.	<i>Escherichia coli</i> , per g	Absent	ISO 16649-2
ii.	<i>Salmonella spp.</i> per 25 g	Absent	ISO 6579-1
iii.	Yeasts and moulds, CFU/g, max.	10 ²	ISO 21527-2

8 Contaminants

The ingredients used in production of biscuits shall comply with the maximum levels for contaminants and toxins given in CXS 193.

9 Packaging

Biscuits shall be packaged in food grade materials to safeguard the safety, hygienic, nutritional, organoleptic and technological qualities of the product.

10 Labelling

10.1 In addition to the requirements given in EAS 38, the product shall be legibly and indelibly labelled with the following information:

- a) name of the product as 'biscuit, wafers, crackers, cookies';
- b) name and physical address of the manufacturer/distributor and/or trade name/brand name;
- c) date of manufacture;
- d) list of ingredients;
- e) lot identification;
- f) expiry date;
- g) country of origin;
- h) net weight in metric units;
- i) storage instructions;
- j) allergen declaration if any; and
- k) instructions on disposal of used package.

10.2 When labelling non-retail packages, information for non-retail packages shall either be given on the packages or in accompanying documents, except that the name of the product, lot identification and the name and address of the manufacturer or packer shall appear on the packages.

11 Sampling

Sampling of biscuits shall be done in accordance with Annex C.

Annex A (normative)

Determination of acid insoluble ash

A.1 Apparatus

A.1.1 Dish, silica or porcelain

A.1.2 Muffle furnace, maintained at $600\text{ }^{\circ}\text{C} \pm 20\text{ }^{\circ}\text{C}$

A.1.3 Water bath

A.1.4 Desiccator

A.1.5 Analytical balance

A.2 Reagent

Dilute hydrochloric acid, approximately 5 mol/l, prepared from concentrated hydrochloric acid

A.3 Procedure

A.3.1 Weigh accurately about 10 g of biscuit powder and transfer to a furnace at $600\text{ }^{\circ}\text{C} \pm 20\text{ }^{\circ}\text{C}$ until light grey ash is obtained.

A.3.2 Remove the dish from the furnace and allow it to cool to room temperature. Add 25 mL of hydrochloric acid to the dish, cover with a watch glass and heat on a water bath for 10 minutes. Mix the contents with the tip of a glass rod and filter through Whatman filter paper No 42 or its equivalent, wash the filter paper with water until the washings are free from acid when tested with blue litmus paper. Return the washed filter paper to the dish for ashing in the muffle furnace as above.

A.3.3 Cool the dish in a desiccator and weigh. Again ignite the dish for half an hour in the furnace, cool and weigh. Repeat this operation until the dish has a constant mass. Filter 25 ml of hydrochloric acid through a blank filter paper wash, ash and weigh it as in the case of acid insoluble ash. Subtract its mass from the mass of insoluble ash in the sample.

A.4 Calculation

A.4.1 Acid insoluble ash expressed as percent by mass shall be calculated using the formula below:

$$A = 100 \frac{(m - m_1)}{m_2}$$

where

A is the acid insoluble ash percent by mass

m_1 is the mass, in grams, of empty dish in which the sample is taken for ashing;

m is the mass, in grams, of the dish containing acid insoluble ash (see A.4.2); and

m_2 is the mass, in grams, of the sample

A.4.2 The acid insoluble ash mass shall be corrected for the blank filter paper.

A.4.3 Acid insoluble ash expressed as percent by mass (on dry weight basis) shall be calculated using the formula below

$$\frac{A \times 100}{100 - M}$$

where,

A is the acid insoluble ash, percent by mass (A.4.1); and

M is the percent of moisture in the biscuit sample.

Annex B (normative)

Sampling of biscuits

B.1 General requirements for sampling

In drawing, preparing, storing and handling samples the following precautions and directions shall be observed:

- a) samples shall be taken in a protected place not exposed to damp air dust or soot;
- b) precautions shall be taken to protect samples, the lots being sampled, sampling instrument and containers for samples from adventitious contamination;
- c) loose biscuit samples or representative small packs, shall be placed in airtight, clean and dry glass, tin or aluminium containers of appropriate size;
- d) samples shall be stored at room temperature; and
- e) each container containing samples shall be sealed airtight and marked with full details of sampling, such as batch or code number, name of manufacturer and other relevant particulars.

B.2 Scale of sampling

B.2.1 Lot

All biscuit containers in a single consignment drawn from the same batch of manufacture shall constitute a lot. If the consignment is declared to consist of different batches of manufacture, the batches shall be marked separately and groups of containers in each batch shall constitute separate lots. Samples shall be tested from each lot to ascertain the conformity of biscuits to the requirements of this standard.

B.2.2 Sample size

The number of containers to be sampled from each lot shall depend on the size of the lot and be in accordance with Table B.1.

B.2.3 Drawing of sample

Containers shall be selected at random from each lot and for this purpose, random number tables shall be used.

Starting from any container, count them as 1, 2 up to r and so on in one order, where r is equal to the integral part of value N/n . N being the total number of containers in the lot and r^{th} number of container thus counted shall be separated until the required number of containers is obtained from the lot.

Table B.1 — Number of containers to be selected for sampling

Lot size <i>N</i>	Sample size <i>n</i>
Up to 50	2
51 – 150	3
151 – 300	4
301 – 500	5
501 and above	7

B.3 Test samples and referee samples

B.3.1 Drawing samples

Draw from each selected container, the required number of biscuit packets. These packets shall be opened and mixed. If the container is packed with loose biscuits, samples of required quantity shall be taken from different parts of the selected container.

B.3.2 Preparation of individual sample

From the selected containers, about 600 g of biscuits shall be taken from different parts of the container. From this about 300 g of biscuits shall be taken for testing general requirements. This 300 g of biscuits shall be divided into three equal parts, one for the purchaser, another for the vendor and the third for the referee. These biscuit samples shall be packed in airtight dry containers and labelled with particulars given in B.1.

B.3.3 Preparation of composite sample

B.3.3.1 The composite sample shall be prepared from the remaining 300 g of biscuits from each selected container, after the sample for general requirements is taken out as given in B.3.3.2 to B.3.3.4.

B.3.3.2 Plain biscuits; grind the sample as quickly as possible.

B.3.3.3 Coated and filled biscuits; the cream, caramel, chocolate, marshmallow, jam, jelly or any other filling between biscuits should be removed by gentle scraping, before powdering the sample.

B.3.3.4 The removed fillers and coating materials should be ground to form homogenous mixture

B.3.3.5 Powdered part of the biscuits should be thoroughly mixed with scraped fillers or coating that were removed during powdering

B.3.3.6 Biscuits are highly hygroscopic. Therefore, preparation samples should be done very quickly, preferably in a dry place.

B.3.3.7 A small but approximately equal quantity of the material (see B.3.3.1) shall be taken from the powdered sample of each selected container and mixed thoroughly so as to form a composite sample weighing not less than 200 g. This sample shall be divided approximately into three equal parts, one for the purchaser, another for the vendor and the third for the referee. These parts shall be transferred to clean, dry and airtight containers, which are then sealed with all the particulars as given in B.1. The sample in each such sealed container shall constitute an individual test sample. These individual samples shall be separated into three identical sets of test samples in such a way that each set has a sample representing each selected container (see Table B.1). One of these sets shall be marked for the purchaser, another for the vendor and the third for the referee.

B.3.4 Referee sample

Referee samples shall consist of a set of individual biscuit samples (see B.3.2) marked for general requirements, a composite sample (see B.3.3.7) and a set of individual test samples shall bear the seals of the purchaser and the vendor. These shall be kept at a place agreed to between the two.

B.4 Number of tests

B.4.1 Biscuits selected according to B.3.2 shall be tested for general requirements.

B.4.2 The test for moisture shall be conducted individually on each of the samples constituting a set of individual test samples (see B.3.3.7).

B.4.3 Tests for the determination of acid insoluble ash and acidity of extracted fat shall be conducted on the composite sample (see B.3.3.7).

B.5 Criteria for conformity

A lot shall be declared as conforming if it meets the requirements of this standard.

Bibliography

EAS 781: 2024 *Biscuits* — *Specification*

DEAS 781:2026 for Public Review

DEAS 781:2026 for Public Review