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## **DRAFT EAST AFRICAN STANDARD**

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**Jams, jellies and marmalades — 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 ###, *[name of committee]*, Subcommittee SC ##, *[name of subcommittee]*.

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.

This *second/third/...* edition cancels and replaces the *first/second/...* edition (EAS nnn-n:yyy), which has been technically revised.

*EAS nnn consists of the following parts, under the general title **Introductory element — Main element**:*





# Jams, jellies and marmalades — Specification

## 1 Scope

This Draft East Africa Standard specifies requirements, methods of sampling and test of jams, jellies and marmalades intended for direct human consumption

## 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.

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

EAS 39, *Code of practice for hygiene in the food and drink manufacturing industry*

ISO 6636-2, *Fruits, vegetables and derived products — Determination of zinc content — Part 2: Atomic absorption spectrometric method*

ISO 6634, *Fruits, vegetables and derived products — Determination of arsenic content — Silver diethyldithiocarbamate spectrophotometric method*

ISO 7952, *Fruits, vegetables and derived products — Determination of copper content — Method using flame atomic absorption spectrometry*

ISO 6633, *Fruits, vegetables and derived products — Determination of lead content — Flameless atomic absorption spectrometric method*

ISO 2447, *Fruit and vegetable products — Determination of tin*

Codex stan 192 *General standard for food additives*

ISO 2173, *Fruit and vegetable products — Determination of soluble solids — Refractometric method*

Codex 296, *Codex standard for jams, jellies and marmalades*

ISO 7251, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection and enumeration of presumptive Escherichia coli — Most probable number technique*



### 3 Terms and definitions

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

#### 3.1

##### **fruit**

Means all of the recognized fruits and those vegetables recognized as suitable for making jams, including but not limited to citrus mango, pineapple, pawpaw and berries.

#### 3.2

##### **fruit pulp**

means the edible portions of the fruit, mashed, or cut into pieces, but not reduced to a puree

#### 3.3

##### **fruit puree**

means fruit ingredient thinly divided by sieving, screening or other mechanical means.

#### 3.4

##### **jam**

the product prepared from suitable fruit ingredient:

- a) which may be whole fruit, fruit pulp, or fruit puree;
- b) with or without fruit juice or concentrated fruit juice as optional ingredient(s);
- c) mixed with sugar, with or without water; and
- d) Processed to a suitable consistency.

#### 3.5

##### **jelly**

the product prepared from suitable fruit ingredients, which is practically free from suspended fruit particles and mixed with carbohydrate sweetener, with or without water, and processed to a semi solid consistency.

#### 3.6

##### **marmalade**

the product obtained by processing citrus fruit, fruit pulp or puree, to a suitable consistency by the application of heat, with water and a carbohydrate sweetener. It may contain added pectin and permitted acids together with other minor ingredients.

#### 3.7

##### **soluble solids**

means per cent by mass of solids determined as concentration of sucrose in an aqueous solution which has the same refractive index as the product analyzed, under specified conditions of preparations and temperature (See clause 4.2.5)

#### 3.8

##### **prepared fruit ingredients**

sound, wholesome, clean fruits of proper ripeness, not deprived of any of its main constituents, except that it is trimmed, sorted and treated to remove objectionable bruises, stems, toppings, tailing, cores, pits (tones), and may not be peeled.

**3.9****prepared citrus fruits**

means the product:

- a) Prepared from fruit which is fresh, processed or preserved other than by drying, and
- b) Prepared from substantially sound, clean citrus fruit from which stems, calyxes, and seeds have been removed and includes pulps, juices, concentrated juice, extractives and preserved peels; and
- c) Containing all natural soluble solids (extractives) except for those lost during preparation under good manufacturing practices.

**3.10****extraneous vegetable material**

vegetable material common to the specific fruit, such as leaves, fruit cores and stems.

**3.11****pit or stone**

whole pit or stone in fruits, such as cherries, that are normally pitted, or a piece of pit of approximately one half pit

**3.12****pit fragments**

vegetable material common to the specific fruit, such as leaves, fruit cores and stems.

**3.13****damaged**

piece of fruit that is blemished, discoloured or bruised by pathological or other means to the extent that is materially affected

**3.14****Syneresis**

liquid oozing out of foods such as jams and jellies.

**3.15****food grade material**

materials that will safeguard the hygienic, safety, nutritional, technological, and organoleptic qualities of the product.

**4 Requirements****4.1 General requirement****4.1.1 Ingredients**

- a) Fruit, fruit pulp, fruit puree fruit juices and concentrates as defined in clause 3
- b) Nutritive Sweetening agents;
- c) Water may be used

**4.1.2 Jams, Jellies and Marmalade shall;**

- a) be prepared from fruit which is either fresh, frozen canned, concentrated or otherwise, processed or preserved; Marmalades shall be prepared from citrus fruit which is fresh, processed, or preserved other than by drying.
- b) be prepared from fruit which is substantially sound, wholesome, of suitable ripeness and clean, not deprived of any of its main constituents, except that it is trimmed, sorted and otherwise treated to

remove objectionable bruises, stems, toppings tailing, cores, pits stone fruits) and may or may not be peeled; and

- c) have the essential physical, chemical, nutritional characteristics, colour, aroma and flavour of the same kind of fruits from which it is made.
- d) free from extraneous vegetable material common to the specific fruit, such as leaves, fruit cores and stems. of over 10 mm in length, and sepal tracts aggregating an area of 5 mm<sup>2</sup> or longer.
- e) contain all natural soluble solids (extractives) except for those lost during preparation under good manufacturing practices (jellies and marmalades)
- f) be prepared by removal of all, or practically all, of the insoluble solids and may be concentrated by the removal of water(jellies)
- g) be free from syneresis (jams and jellies)
- h) have uniform appearance, consistency and characteristic of the product and remain as such when stored under normal storage conditions.

#### 4.2 Specific requirement

Jams, jellies and marmalades shall conform to the compositional requirement in Table 1.

**Table 1 — Compositional requirement of Jams, jellies and marmalades**

S/N	Characteristics	Requirement	Test method
1	Fruit content, Min (%) Jams and jellies (single fruit) Jams and Jellies (Two fruits) Jams and jellies (Three fruits) Marmalades	45 20 in each fruit 10 in each fruit 20	GMP
2	Total soluble solids (jams, jellies and marmalades), Min (%)	65	ISO 2173

#### 5 Food additives and processing aids

Jams, jellies and marmalades may contain only permitted additives in accordance with Codex Stan 192.

## 6 Contaminants

### 6.1 Pesticide residues

Jams, jellies and marmalades shall conform to the pesticide residue limits established in the *Codex online database for pesticide residues in food* for this product.

### 6.2 Metal contaminants

Jams, jellies and marmalades shall not contain any metal contaminants in excess of the quantities specified in Table 2.

**Table 2— Limit for metal contaminants in jams, jellies and marmalades**

Class	Maximum (mg/kg)	Method of test
Arsenic (as As )	0.5	ISO 6634
Tin (as Sn)	250	ISO 2447
Copper (as Cu)	10	ISO 7952
zinc (as Zn)	50	ISO 6636-2
Lead (as Pb)	1	ISO 6633

## 7. Hygiene

**7.1** Jams, jellies and marmalades shall be manufacture in accordance with the requirements and Good Hygienic Practices prescribed in EAS 39 (see clause 2).

### 7.2 Microbiological limits.

The product shall conform to the microbiological limits stated in Table 3

**Table 3 – Microbiological limits**

Microorganism	Limit	Method of test
Total plate count, (cfu/g), maximum	10 <sup>2</sup>	ISO 4833
<i>Coliform</i> , (cfu/g), maximum	Absent	ISO 4832
Yeasts and moulds, (cfu/g), maximum	Absent	ISO 21527-1
<i>Salmonella sp</i> , cfu/ g	Absent	ISO 6579
<i>E. coli</i> cfu/mL	Absent	ISO 7251

## 8 Packaging

**8.1** Jams, jellies and marmalades shall be packaged in food grade containers

**8.2** The volume and filling of the container shall comply with weight and measures regulations in the respective partner state

## **9 Labelling**

In addition to the requirements of EAS 38, 803,804 and 805 the following specific labelling requirements shall apply and shall be legibly and indelibly marked;

- a) Name of product which shall reflect the true name of the fruit, used in the manufacture of the jam, jellies and marmalade. When two or more different fruits are used in combination the product shall be labelled as “mixed fruit jam, jellies or marmalades.”
- b) Name, physical and postal address of manufacturer
- c) Country of origin
- d) Date of manufacture and expiry date
- e) List of ingredients
- f) Net content in metric units
- g) Storage condition
- h) Batch number/Lot number.
- i) Trade mark, if any

## **10 Methods of sampling**

Sampling shall be in accordance with Annex C and test shall be done in accordance with methods specified in the relevant Tables and annexes of this Standard

**Annex B**  
**TEMPERATURE CORRECTION FOR STANDARD MODEL OF SUGAR**  
**REFRACTOMETER CALIBRATED FOR 20°C**

Temperature °C	Percentage of dry substance													
	5	10	15	20	25	30	35	40	45	50	55	60	65	70
	Subtract from dry substance													
15	.29	.31	.33	.34	.34	.35	.36	.37	.37	.38	.39	.39	.40	.40
16	.24	.25	.26	.27	.28	.28	.29	.30	.30	.30	.31	.31	.32	.32
17	.18	.19	.20	.21	.21	.21	.22	.22	.23	.23	.23	.23	.23	.23
18	.13	.13	.14	.14	.14	.14	.15	.15	.15	.16	.16	.16	.16	.16
19	.06	.06	.07	.07	.07	.08	.08	.08	.08	.08	.08	.08	.08	.08
21	.07	.07	.07	.07	.07	.08	.08	.08	.08	.08	.08	.08	.08	.08
22	.13	.14	.14	.15	.15	.15	.15	.15	.16	.16	.16	.16	.16	.16
23	.20	.21	.22	.22	.23	.23	.23	.23	.24	.24	.24	.24	.24	.24
24	.27	.28	.29	.30	.31	.31	.31	.31	.31	.32	.32	.32	.32	.32
25	.35	.36	.37	.38	.38	.39	.40	.40	.40	.40	.40	.40	.40	.40
26	.42	.43	.44	.45	.46	.47	.48	.48	.48	.48	.48	.48	.48	.48
27	.50	.52	.53	.54	.55	.55	.56	.56	.56	.56	.56	.56	.56	.56
28	.57	.60	.61	.63	.63	.64	.64	.64	.64	.64	.64	.64	.64	.64
29	.66	.68	.68	.71	.72	.73	.73	.73	.73	.73	.73	.73	.73	.73
30	.74	.77	.78	.79	.80	.80	.81	.81	.81	.81	.81	.81	.81	.81

## **Annex C** (normative)

### **Sampling**

#### **C.1 Definitions**

##### **C.1.1**

**lot**  
collection of primary containers or units of the same size, type, and style manufactured or packed under similar conditions and handled as a single unit of trade

##### **C.1.2**

**lot size**  
number of primary containers or units in the lot

##### **C.1.3**

**sample size**  
total number of sample units drawn for examination from a lot

##### **C.1.4**

**sample unit**  
container, a portion of the contents of a container, or a composite mixture of product from small containers that is sufficient for the examination or testing as a single unit. For fill of container, the sample unit shall be the entire contents of the container

## C.2 Sampling plans

Lot size (primary containers)	Size of container, $n^1$
Net weight equal to or less than 1 kg (2.2 lb)	
4 800 or less	13
4 801 to 24 000	21
24 001 to 48 000	29
48 001 to 84 000	48
84 001 to 144 000	84
144 001 to 240 000	126
Over 240 000	200
Net weight greater than 1 kg (2.2 lb) but not more than 4.5 kg (10 lb)	
2 400 or less	13
2 401 to 15 000	21
15 001 to 24 000	29
24 001 to 42 000	48
42 001 to 72, 000	84
72 001 to 120 000	126
Over 120 000	200
Net weight greater than 4.5 kg (10 lb)	
600 or less	13
601 to 2 000	21
2 001 to 7 200	29
7 201 to 15 000	48
15 001 to 24 000	84
24 001 to 42 000	126
Over 42 000	200
<sup>1</sup> $n$ = number of primary containers in sample.	





## Bibliography