



**DEAS 66-1: 2016**

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## **DRAFT EAST AFRICAN STANDARD**

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**Tomato products — Specification — Part 1: Canned tomatoes**

**EAST AFRICAN COMMUNITY**

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East African Community  
P.O.Box 1096  
Arusha  
Tanzania  
Tel: 255 27 2504253/8  
Fax: 255 27 2504481/2504255  
E-mail: [eac@eachq.org](mailto:eac@eachq.org)  
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## Contents

Page

Foreword .....	iv
1 Scope .....	Error! Bookmark not defined.
2 Conformance .....	Error! Bookmark not defined.
3 Normative references .....	Error! Bookmark not defined.
4 Terms and definitions .....	Error! Bookmark not defined.
5 Symbols (and abbreviated terms).....	Error! Bookmark not defined.
6 Clause .....	Error! Bookmark not defined.
6.1 Subclause (level 1) .....	Error! Bookmark not defined.
6.1.1 Subclause (level 2) .....	Error! Bookmark not defined.
6.1.2 Subclause (level 2) .....	Error! Bookmark not defined.
6.2 Subclause (level 1) .....	Error! Bookmark not defined.
7 Clause .....	Error! Bookmark not defined.
8 Special .....	Error! Bookmark not defined.
Annex A (normative) Annex title .....	Error! Bookmark not defined.
A.1 General .....	Error! Bookmark not defined.
A.2 Clause .....	Error! Bookmark not defined.
A.2.1 Subclause (level 1) .....	Error! Bookmark not defined.
A.2.2 Subclause (level 1) .....	Error! Bookmark not defined.
A.3 Clause .....	Error! Bookmark not defined.
Annex B (informative) Which styles correspond to which element — Quick reference guide.....	Error! Bookmark not defined.
Bibliography.....	6

## 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.

In order to achieve this objective, the Community established an East African Standards Committee mandated to develop and issue East African Standards.

The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the private sectors and consumer organizations. 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 procedures of the Community.

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.

EAS 66-1 was prepared by Technical Committee EASC/TC 000, *TC title*, Subcommittee SC 0, *SC title*.

## Tomato products — Specification Part 1: Canned (preserved) tomatoes

### 1 Scope

This Part 1 of this EAS 66 prescribes the requirements for canned (preserved) tomatoes.

### 2 Normative references

The following referenced documents are indispensable for the application for this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies;

AOAC 968.30, Canned vegetables – Drained weight procedure

CODEX STAN 192, General standard for food additives

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

ISO 17240:2004 *Fruit and vegetable products -- Determination of tin content -- Method using flame atomic absorption spectrometry*

ISO 7952:1994 *Fruits, vegetables and derived products -- Determination of copper content -- Method using flame atomic absorption spectrometry*

ISO 6636-2:1981 *Fruits, vegetables and derived products -- Determination of zinc content -- Part 2: Atomic absorption spectrometric method*

ISO 17239:2004 *Fruits, vegetables and derived products -- Determination of arsenic content -- Method using hydride generation atomic absorption spectrometry*

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

ISO 4833 (all parts), *Microbiology of the food chain - Horizontal methods for the enumeration of microorganisms*

ISO 21527-1, *Microbiology of food and animal feedingstuffs – Horizontal methods for the enumeration of yeasts and moulds*

ISO 7251, *Microbiology of food and animal feedingstuffs – Horizontal methods for the detection and enumeration of presumptive Escherichia coli – Most Probable Number technique*

ISO 6579, *Microbiology of food and animal feedingstuffs – Horizontal methods for the detection of Salmonella spp.*

EAS 38, *Packaging, marking and labeling of foods*

EAS 39, *General principles of food hygiene — Code of practice*

### Definition

For the purpose of this standard, the following definitions shall apply:

## 2.1

### **canned tomatoes**

product prepared from clean, ripe and sound tomatoes conforming to the characteristics of the tomato variety used and which are physically preserved by heat

## 2.2

### **whole tomato**

tomato of any size in which the contour is not materially altered by coring and trimming and shall not be cracked or split to the extent of having material loss of placenta

### **2.3 objectionable core material**

internal core material of tough and fibrous texture

### **2.4 blemishes**

areas of tomatoes that are abnormal and contrast strongly in colour and texture with the normal tomato tissue

### **2.5 extraneous plant materials**

tomato leaves, stems, calyx bracts and similar plant material

### **2.6 peeled tomatoes**

tomatoes in which the skins have been removed

### **2.7 unpeeled tomatoes**

tomatoes in which the skins are intact

## **3 Styles and types of pack**

3.1 Canned tomatoes shall be in any of the following forms, with or without skin:

- i) Whole,
- ii) Whole and pieces
- iii) Pieces:
  - Diced, tomatoes cut into cubes
  - Sliced, tomatoes cut perpendicularly to the longitudinal axis in rounds with regular thickness
  - Wedges, tomatoes cut into roughly four equal parts
  - Pulped, crushed or chopped, tomatoes crushed, ground or pulped when appropriate

### **3.2 Types of pack**

Canned tomatoes shall be packed in any of the following forms:

- i) Regular pack with a liquid medium added.
- ii) Solid pack without any added liquid medium.

## **4 Requirements**

### **4.1 General requirements**

#### **4.1.1 Colour**

Drained tomatoes shall have a characteristic colour of the tomato variety that have been properly prepared and processed. No artificial colouring matter shall be added to the product.

#### **4.1.2 Flavour**

Canned tomatoes shall have a normal flavour and shall be free from flavour foreign to the product. Canned tomatoes with special added ingredients shall have a flavour characteristic of that imparted by the tomatoes and the other substances used.

#### **4.1.3 Wholeness**

Canned tomatoes of 'whole' style shall consist of not less than 80 % m/m of drained tomatoes in whole units.

#### **4.1.4 Defects**

Canned tomatoes shall free from objectionable core material, peels, dark specks or any other inedible plant material.

### **4.2 Requirements of the packaging media**

4.2.1 Canned tomatoes may be packed in the following packing media.

- i) Juice — unconcentrated, undiluted liquid from ripe sound tomatoes.
- ii) Residual material — liquid strained from the residue from preparing tomatoes for canning
- iii) Pure or pulp — unconcentrated tomato juice.
- iv) Paste — highly concentrated tomato juice

4.2.2 The packing media shall have a pH of 4.3 or lower.

#### **4.2.3 Additives**

Food additives shall be used as per CODEX STAN 192.

## **5 Contaminants**

### **5.1 Pesticide residues**

The products shall conform to the pesticide residue limits prescribed by the Codex Alimentarius Commission of the respective commodity.

### **5.2 Other contaminants**

The product shall not exceed the limits for heavy metal indicated in Table 1.

**Table 1 — Limits for mineral impurities in canned tomatoes**

SL NO	Heavy metal	Maximum limits (ppm)	Test method
i)	Arsenic (As)	0.5	ISO 17239
ii)	Lead (Pb)	1.0	ISO 6633
iii)	Copper (Cu)	10	ISO 6636-2
iv)	Zinc (Zn)	20	ISO 6636-2
v)	Tin (Sn)	250	ISO 7952

## 5 Hygiene

5.1 Canned tomatoes shall be prepared under hygienic conditions in accordance with EAS 39 .

### 5.2 Microbiological Limits

5.2.1 Canned tomatoes shall be free from pathogenic organisms and shall comply with the microbiological limits indicated in Table 2.

**Table 2 — Microbiological limits for canned tomatoes**

Type of micro-organism	Maximum limits	Test method
Total viable counts, cfu/g	10	ISO 4833 (all parts)
Yeast/moulds cfu/g	shall be absent	ISO 21527-1
Escherichia coli MPN/g	shall be absent	ISO 7251
Salmonella sp. per 25 g	shall be absent	ISO 6579
Mould filament, max.	40 % positive fields	AOAC 965.41

## 6 Minimum fill

The products shall occupy a minimum fill of not less than 90 % of the water holding capacity of the container which shall be determined in accordance with Annex A.



Drained weight of the contents shall be not less than 50 % of the net weight of the container and shall be determined in accordance with AOAC 968.30.

## 6 Packaging

6.1.1 Canned tomatoes shall be packed in plain cans or in cans with a food grade acid resistant lacquering material, that shall not affect the quality of the product.

The interior of the can shall not show any black discolouration, rusting or pitting.

6.1.2 Canned tomatoes shall be packed in cans of standard sizes.

## 7 Labelling

10.1 In addition to the requirements of EAS 38, the following specific labelling requirements shall apply and shall be legibly and indelibly marked :

- a) Name of product including the type shall be "Canned tomato" or "Preserved tomato; and if the peel has not been removed, the word "Unpeeled" or if the peel has been removed, the word "Peeled", shall precede the name of the product
- b) style according to Clause 3;
- c) Name, physical and postal address of manufacturer/importer
- d) Country of origin
- e) Date of manufacture and expiry date
- f) List of ingredients
- g) Net content in grams
- h) Drain weight in grams
- i) Storage condition
- j) Batch number in code or in clear
  
- k) Instructions on usage 'Use immediately after opening the container'.

## Annex A (normative)

### Determination of the fill of the container

#### A.1 Scope

This method applies to glass containers.

#### A.2 Definition

The water capacity of a container is the volume of distilled water at 20 °C which the sealed container will hold when completely filled.

#### A.3 Procedure

**A.3.1** Select a container which is undamaged in all respects.

A.3.2 Weigh the filled container, (W1)

**A.3.3 Empty**, Wash, dry and weigh the empty container (W2).

**A.3.4** Fill the container with distilled water at 20 °C to the level of the top thereof, and weigh the container thus filled (W3).

**A.3.5 Calculate the** water capacity of a container

$$\text{WCC (Water Capacity of the Container)} = W3 - W2$$

#### A.4 Calculation and expression of results

Subtract the weight (W2) found in A.3.3 from the weight (W1) found in A.3.2 and divide the result by WCC found in A.3.5 and multiply by 100 fill the container. Results are expressed as percentage.

$$\begin{aligned}\text{Fill of the container} &= (W1-W2)/WCC*100 \\ &= (W1-W2)/(W3 - W2)*100\end{aligned}$$

## Bibliography

DEAS 66-1:2016



DEAS 66-1:2016