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## **DRAFT EAST AFRICAN STANDARD**

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**Cheese — Specification — Gouda cheese**

**DRAFT 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 017, *Milk and milk products*.

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.

## Cheese — Specification — Gouda cheese

### 1 Scope

This Draft East African Standard specifies the requirements, sampling and test methods for Gouda cheese intended for direct consumption or for further processing.

### 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 999.10, *Determination of Lead, Cadmium, Zinc, Copper, and Iron in foods, Atomic Absorption Spectrophotometry after Microwave Digestion*

CAC/RCP 1, *General principles of food hygiene — Code of practice*

CODEX STAN 192, *General standard for food additives*

CODEX STAN 193, *General standard for contaminants in food and feed*

CODEX STAN 283, *General standard for cheese*

EAS 38, *Labelling of pre-packaged foods — General requirements*

ISO 14501, *Milk and milk powder — Determination of aflatoxin M1 content — Clean-up by immunoaffinity chromatography and determination by high-performance liquid chromatography*

ISO 1735, *Cheese and processed cheese products — Determination of fat content — Gravimetric method (Reference method)*

ISO 4832, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of coliforms — Colony-count technique*

ISO 5534, *Cheese and processed cheese — Determination of the total solids content (Reference)*

ISO 5538, *Milk and milk products — Sampling — Inspection by attributes*

ISO 5738, *Milk and milk products — Determination of copper content — Photometric method (reference method)*

ISO 6611, *Milk and milk products — Enumeration of colony-forming units of yeasts and/or moulds — Colony-count technique at 25 degrees C*

ISO 707, *Milk and milk products — Methods of sampling*

ISO 8197, *Milk and milk products — Sampling — Inspection by variables*

### 3 Terms and definitions

No terms and definitions are listed in this document.

### 4 Product description

#### 4.1 Gouda cheese

A ripened firm/semi-hard cheese in conformity with CODEX STAN 283. The body has a near white or ivory through to light yellow or yellow colour and a firm-textured (when pressed by thumb) texture, suitable for cutting, with few to plentiful, more or less round pin's head to pea sized (or mostly up to 10 mm in diameter) gas holes, distributed in a reasonable regular manner throughout the interior of the cheese, but few openings and splits are acceptable. For gouda ready for consumption, the ripening procedure to develop flavour and body characteristics is normally from 3 weeks at 10 °C - 17 °C depending on the extent of maturity required. Alternative ripening conditions (including the addition of ripening enhancing enzymes) may be used, provided the cheese exhibits similar physical, biochemical and sensory properties as those achieved by the previously stated ripening procedure. Gouda intended for further processing and Gouda of low weights (< 2.5 kg) need not exhibit the same degree of ripening when justified through technical and/or trade needs.

#### 4.2 Baby Gouda cheese

Small cheeses complying with the requirements for Gouda cheese, except those under 4.2 may be designated as 'Baby Gouda cheese', provided they comply with the following: Shape, Cylindrical with convex sides, curving smoothly into the flat top and bottom, the height/diameter is about ½.

### 5 Requirements

#### 5.1 Raw materials

Cow's milk or buffaloes' milk, or their mixtures, and product obtained from these milks.

#### 5.2 Essential ingredients

The ingredients used shall comply with relevant standards:

- a) starter cultures of harmless lactic acid and/ or flavour producing bacteria and cultures of other harmless micro-organisms;
- b) Rennet or other safe and suitable coagulating enzymes;
- c) Sodium chloride; and
- d) potassium chloride as a salt substitute.

#### 5.3 Optional ingredients

- a) Safe and suitable enzymes to enhance the ripening process;
- b) Safe and suitable processing aids; and
- c) Rice, corn and potato flours and starches complying with CODEX STAN 266.

## **6 Characteristics for Gouda cheese**

### **6.1 Consistency**

The Gouda cheese shall be firm and semi-hard as per the classification in CODEX STAN 283.

### **6.2 Rind**

The rind of Gouda cheese shall be as follows:

- a) consistency: hard;
- b) appearance: the rind shall be dry or coated with either wax, a suspension of plastic or a film of edible vegetable oil; and
- c) colour: the rind shall be as specified in 4.1.

### **6.3 Body**

The body of Gouda cheese shall be as follows:

- a) texture: the texture of the cheese shall be firm and suitable for cutting; and
- b) colour: the body shall have a near white or ivory through to light yellow or yellow colour.

### **6.4 Holes**

The holes of Gouda cheese shall be as follows:

- a) distribution: from few to plentiful, all over the interior of the cheese, distribution regularly as well as irregularly;
- b) shape: the shape of the holes shall be round; and
- c) size: the size of the holes shall vary from a pin's head to a pea.

## **6.5 Shape, dimensions and weights**

### **6.5.1 Gouda cheese**

#### **6.5.1.1 Shape**

The shape of the Gouda cheese shall be as follows:

- a) cylindrical, with convex sides, curving smoothly into the flat top and bottom;
- b) the Height/Diameter varying from  $\frac{1}{4}$  -  $\frac{1}{3}$ ;
- c) flat block with square and/or rectangular sides (not being a loaf) and with or without rind; and
- d) loaf, the length of the long side more than twice that of the shortest.

#### **6.5.1.2 Dimensions**

The dimensions of Gouda cheese shall be as follows:



- a) cylindrical, with convex sides fixed by prescribed shape and weights;
- b) flat block-fixed by prescribed shape and weights; and
- c) loaf-fixed by prescribed shape and weights.

**6.5.1.3 Weights**

The weights of Gouda cheese shall be as follows:

- a) cylindrical, with convex sides: from 2.5 kg to 30 kg;
- b) flat block: not less than 5 kg; and
- c) loaf: from 2.5 kg to 5 kg.

**6.5.2 Baby Gouda cheese****6.5.2.1 Shape**

- a) cylindrical with convex sides, curving smoothly into the flat top and bottom; and
- b) height/diameter is about  $\frac{1}{2}$ .

**6.5.2.2 Dimension**

The dimension of baby Gouda cheese shall be fixed with prescribed shape and weight.

**6.5.2.3 Weight**

The weight of baby Gouda cheese shall be from 0.180 kg to 2.500 kg.

**6.6 Specific requirements**

**Table 1 — Specific requirements for Gouda cheese**

S/N	Quality	Requirements		Test method
		Gouda cheese	Baby Gouda cheese	
i.	Milk fat content in dry matter, %	30 (min)	40 - 48	ISO 1735
ii.	Dry matter content, %, min	48	50	ISO 5534

**6 Food additives**

Food additives may be added in Gouda cheese in accordance with CODEX STAN 192.

## 7 Contaminants

**7.1** Gouda cheese shall comply with those maximum limits for pesticides and veterinary residue as provided by Codex Alimentarius Commission for the ingredients used in cheese manufacturing.

**7.2** When tested in accordance with ISO 14501, the level of Aflatoxin M1, shall not exceed 0.50 µg/kg.

## 8 Heavy metals

The heavy metal requirements in the product shall comply with the limits in the Table 2.

**Table 2 — Maximum limits of heavy metals**

S/N	Heavy metal	Maximum limits	Test method
i.	Lead, mg/kg	0.02	AOAC 999.10

## 9. Hygiene

**9.1** Gouda cheese shall be processed, packaged, stored and distributed under hygienic conditions complying with CAC/RCP 1 and CAC/RCP 57.

**9.2** Gouda cheese shall not exceed the microbiological limits in Table 3 when tested in accordance with test methods specified therein.

**Table 3 — Microbiological limits**

S/N	Microorganism	Maximum limits	Test method
i.	<i>Salmonella spp</i> per 25g	Absent	ISO 6579-1
ii.	<i>E. Coli</i> , cfu/g, max.	Absent	ISO 11866-1
iii.	<i>Coliforms</i> , max/g	10	ISO 4832
iv.	<i>S.aureus</i> cfu/g	10 <sup>2</sup>	ISO 6888-1
v.	<i>Listeria monocytogenes</i> /25g, max.	Absent	ISO 11290-2

## 10 Packaging

The products shall be packaged in food grade containers made of suitable material and shall be well sealed in order to prevent contamination of the contents during storage and transportation.

## 11 Labelling

In addition to the requirements of EAS 38, labelling of Gouda cheese shall include the following:

- name of product as cheese;
- type of the cheese as “Gouda” or “Baby Gouda”
- name and address of manufacturer;
- date of manufacture;

- e) list of ingredients;
- f) coagulating enzyme used;
- g) date of expiry;
- h) source of milk (cow/buffalo);
- i) storage conditions;
- j) batch number; and
- k) country of origin.

## **12 Sampling**

**12.1** Test sampling shall be taken in accordance with ISO 707.

**12.2** In addition to the provision in ISO 707, sampling shall comply with ISO 8197 or ISO 5538 when the sampling is purposely for inspection.

