



**DEAS 130: 2019**

ICS 67.140.20

HS 0901.11.00

## **EAST AFRICAN STANDARD**

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**Green coffee beans— 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. XXXXXX.

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 002, *Coffee, tea, cocoa and related 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.

This second edition cancels and replaces the first edition (EAS 130:1999), which has been technically revised.

## Green coffee beans — Specification

### 1 Scope

This Draft East African Standard specifies requirements, methods of sampling and test for green coffee beans. This standard applies to both Arabica (*Coffea Arabica*) and Robusta (*Coffea canephora*) coffee beans

### 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.

ISO 10470, *Green coffee — Defect reference chart*

ISO 3509, *Coffee and coffee products — Vocabulary*

ISO 4072, *Green coffee in bags — Sampling*

ISO 4149, *Green coffee — Olfactory and visual examination and determination of foreign matter and defects*

ISO 4150, *Green coffee — Size analysis — Manual sieving*

ISO 6667, *Green coffee -- Determination of proportion of insect-damaged beans*

ISO 6668, *Green coffee — Preparation of samples for use in sensory analysis*

ISO 6673, *Green coffee — Determination of loss in mass at 105 degrees C*

ISO 8455, *Green coffee in bags — Guide to storage and transport*

ISO 9116, *Green coffee — Guidelines on methods of specification*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 3509 and the following apply.

#### 3.1 green coffee beans

naked coffee beans before any further processing

#### 3.2 arabica coffee

coffee of the botanical species *Coffea arabica* L.

#### 3.3 robusta coffee

coffee of the botanical species *Coffea canephora*

## 4 Requirements

### 4.1 General requirements

When tested in accordance with ISO 4149, green coffee beans shall:

- a) have a characteristic appearance and colour;
- b) be free from foreign odour;
- c) be practically free from extraneous and foreign matter; and
- d) free from infestation due to insect, fungus and rodent.

### 4.2 Green Coffee Bean sizes

#### 4.2.1 Arabica coffee

When analysed in accordance with ISO 4150, green coffee bean sizes shall be as specified in Table 1.

**Table 1 — Arabica coffee size and tolerance levels**

| Screen size |      | Symbols of grades | Bean size tolerance % |    |
|-------------|------|-------------------|-----------------------|----|
| 1/64 inch   | mm   |                   |                       |    |
| 20          | 8    | AA                | 5                     |    |
| 19          | 7.5  |                   |                       |    |
| 18.5        | 7.25 | A                 |                       |    |
| 18          | 7    |                   |                       |    |
| 17          | 6.75 |                   |                       |    |
| 16          | 6.5  | B                 |                       |    |
| 15          | 6    |                   |                       |    |
| 14          | 5.5  | C                 |                       | 10 |
| 13          | 5.25 |                   |                       |    |
| 12          | 5    |                   |                       |    |
| ≤11         | 4.5  | Under grade       |                       |    |

NOTE Peaberry (PB) shall be retained on slotted screen size of 12 and above with bean size tolerance level of 5%.

#### 4.2.2 Robusta coffee

The Robusta coffee may be graded based on bean sizes, the level of defects and cupping score as indicated in Table 2.

**Table 2 — Grades of Robusta coffee based on coffee bean sizes**

| Screen size |        | Grades | Bean size tolerance % |
|-------------|--------|--------|-----------------------|
| 1/64 inch   | mm     |        |                       |
| 20          | 8.00   | 1      | 5                     |
| 19          | 7.50   |        |                       |
| 18          | 7.10   |        |                       |
| 17          | 6.70   | 2      |                       |
| 16          | 6.30   |        |                       |
| 15          | 6.00   | 3      |                       |
| 14          | 5.60   |        |                       |
| 13          | 5.00   | 4      |                       |
| 12          | 4.75   | 5      | >5                    |
| < 12        | < 4.75 |        |                       |

### 4.3 Specific requirements

Green coffee beans shall comply with the specific requirements given in Table 3 when tested in accordance with test methods specified therein.

**Table 3 — specific requirements for green coffee beans**

| S/N  | Characteristic                  | Limit (for commercial grade) | Test method |
|------|---------------------------------|------------------------------|-------------|
| i.   | Moisture content % m/m , max    | 12.5                         | ISO 6673    |
| ii.  | Insect damage % m/m, max        | 10                           | ISO 6667    |
| iii. | Broken beans % m/m, max         | 5                            | ISO 4149    |
| iv.  | Foreign matter % m/m (max)      | 1                            | ISO 6668    |
| v.   | Number of full defects (max)    | Arabica- 86                  | Annex A     |
|      |                                 | Robusta -150                 |             |
| vi.  | Number of primary defects (max) | 5                            | Annex A     |
| vii. | Cup quality points (min)        | 50                           | Annex B     |

## 5 Pesticide residues

Green coffee beans shall not contain levels of pesticide residues, in excess of limits established by Codex Alimentarius Commission.

## 6 Labelling

The lot or consignment of green coffee beans shall be provided with the information as stipulated in ISO 9116 green coffee bags shall be labelled as follows:

- a) name of the product as “green coffee beans”;
- b) country of origin;

- c) plantation of origin;
- d) year of harvest;
- e) type;
- f) grade; and
- g) net weight.

## **7 Packaging, storage and transport**

**7.1** Green coffee beans shall be packaged in suitable materials which do not affect the product, or it shall be put into bulk containers capable of protecting the product from damage, deterioration and contamination.

**7.2** Storage and transport of green coffee beans shall be done in accordance with ISO 8455.

## **8 Sampling**

Sampling of green coffee beans shall be done in accordance with ISO 4072.

**Annex A**  
(normative)

**Defects in Green coffee beans**

**A.1 Defects and value of faults for each defect**

Table A.1 and Table A.2 show the value of faults stipulated for primary and secondary defects respectively.

**Table A.1— Primary Defects**

| <b>Primary defects</b> | <b>Full defects equivalent</b> |
|------------------------|--------------------------------|
| Full Black             | 1                              |
| Full sour              | 1                              |
| Pod/Cherry             | 1                              |
| Fungus damage          | 1                              |
| Foreign matter         | 1                              |
| Severe insect damage   | 5                              |

**Table A.2— Secondary Defects**

| <b>Secondary defects</b> | <b>Full defects equivalent</b> |
|--------------------------|--------------------------------|
| Partial black            | 3                              |
| Partial sour             | 3                              |
| Parchment                | 5                              |
| Floater                  | 5                              |
| Immature                 | 5                              |
| Withered                 | 5                              |
| Shell                    | 5                              |
| Broken Chipped/Cut       | 5                              |
| Hull/Husk                | 5                              |
| Slight insect damage     | 10                             |

## Annex B (normative)

### Cup quality test

#### B.1 Cup quality

**B.1.1** The sample for sensory analysis shall be prepared in accordance with ISO 6668

**B.1.2** The process of evaluating cup quality is a systematic, sensory approach. It scores up to 60% points.

**B.1.3** Experienced coffee liquorers/Cuppers shall assess the actual quality of coffee after roasting and brewing a sample of the coffee already graded by size.

**B.1.4** The liquor score shall be obtained by scoring the following parameters/10 points:

- a) Fragrant/aroma
- b) Flavor
- c) After taste
- d) Balance
- e) Acidity
- f) Body
- g) Uniformity
- h) Cleanliness
- i) sweetness
- j) overall

**B.1.5** Green coffee shall comply with the Cup quality requirements in Table B.1

**Table B.1— Cup quality of Green coffee beans**

| Grades     | Score%  |
|------------|---------|
| Specialty  | 85 -100 |
| Premium    | 75-84   |
| Commercial | 40-74   |
| Off grade  | <40     |

## Bibliography

- [1] EAS 130:1999, *Green coffee beans – Specification*

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