



DRAFT EAST AFRICAN STANDARD

Composite flour – Specification

EAST AFRICAN COMMUNITY



Foreword

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

In order to meet the above objectives, the EAC Partner States have enacted an East African Standardization, Quality Assurance, Metrology and Test Act, 2006 (EAC SQMT Act, 2006) to make provisions for ensuring standardization, quality assurance, metrology and testing of products produced or originating in a third country and traded in the Community in order to facilitate industrial development and trade as well as helping to protect the health and safety of society and the environment in the Community.

East African Standards are formulated in accordance with the procedures established by the East African Standards Committee. The East African Standards Committee is established under the provisions of Article 4 of the EAC SQMT Act, 2006. 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.

Article 15(1) of the EAC SQMT Act, 2006 provides that “Within six months of the declaration of an East African Standard, the Partner States shall adopt, without deviation from the approved text of the standard, the East African Standard as a national standard and withdraw any existing national standard with similar scope and purpose”.

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.

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Composite flour — Specification

1 Scope

This draft East African Standard specifies requirements, sampling and test methods for composite flour intended for human consumption.

This standard does not apply where there are specific standards for blends or composites exist.

2 Normative references

The following referenced documents are indispensable for the application 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 the labelling of pre-packaged foods*

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

EAS 744, *Cassava and cassava products – Determination of total cyanogens – Enzymatic assay method*

EAS 900, *Cereals and Pulses - Sampling*

EAS 901, *Cereals and Pulses – Test Methods*

Codex Stan 192, *General Standard of Food Additive*

CODEX STAN 193, *Codex General Standard for Contaminants and Toxins in Food and Feed*

AOAC 952.13, *Arsenic in food. Silver diethyldithiocarbamate.*

ISO 4833-1 *Microbiology of the food chain -- Horizontal method for the enumeration of microorganisms -- Part 1: Colony count at 30 degrees C by the pour plate technique*

AOAS Ba9-58, *Determination of Urease Activity*

ISO 5498, *Agricultural food products – Determination of crude fibre content – General method*

ISO 5985, *Animal feeding stuffs -- Determination of ash insoluble in hydrochloric acid*

ISO 6561-1, *Fruits, vegetables and derived products -- Determination of cadmium content -- Part 1: Method using graphite furnace atomic absorption spectrometry*



ISO 6561-2, *Fruits, vegetables and derived products -- Determination of cadmium content -- Part 2: Method using flame atomic absorption spectrometry*

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

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

ISO 9648, *Sorghum -- Determination of tannin content*

ISO 14902, *Animal feeding stuffs -- Determination of trypsin inhibitor activity of soya products*

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 Product description

Composite flour is a product obtained by blending of flour prepared from food plants and/or their products. It may also be obtained by blending grains/seeds before milling.

4 Terms and definitions

4.1

sound/wholesome

free from disease and physiological deterioration (such as but not limited to decay, breakdown, freezing damage) or adulteration/contamination, that appreciably affects their appearance, edibility, the keeping quality of the produce or market value

4.2

practically free

without defects in excess of those that can be expected to result from, and be consistent with good cultural and handling practices employed in the production and marketing of the composite flour

4.4

foreign matter

all organic and inorganic material other than composite flour.

4.5

filth'

Impurities of animal origin like dead insects



5 Quality requirements

5.1 General requirements

5.1.1 The food plants or their products from which the flour is milled shall be clean, sound, and practically free from foreign matter. The raw materials shall comply with the relevant East African Standards.

5.1.2 Composite flour shall be:

- a) practically free from foreign matter;
- b) free of off flavours and off-odours; and
- c) practically free from any living insects and filth .

5.2 Specific requirements

Composite flour shall comply with the limits given in Table 1 when tested in accordance with the test methods specified therein.

Table 1 – Specific requirements for composite flour

S/N	Characteristic	Requirements	Methods of test
1	Acid insoluble ash, %, by mass, max.	0.40	ISO 5985
2	Fat Acidity, mg KOH, max.	80	ISO 7305
3	Moisture Content, %, by mass, max.	14	EAS 901, Clause 5
4	on a dry matter basis, max.	5.0	ISO 5498

5.5 Hydrocyanic acid content

If cassava is used as a component of the composite flour, the total hydrocyanic acid content of composite flour shall not exceed 10 mg/kg, when tested using EAS 744.

5.6 Anti nutritional Factors

If soy flour is used as a component of the composite flour, trypsin inhibitor activity in the composite flour shall not exceed 5mg/g when tested by AOAS Ba9-58.

If sorghum flour is used as a component of the composite flour, the tannin content of the composite flour shall not exceed 0.3% by mass on a dry matter basis when tested according to ISO 9648.

6. Food Additives

Food additives may be used in the preparation of composite flour in accordance with Codex Stan 192.



7. Hygiene

Composite flour shall be prepared and handled in accordance with EAS 39. Composite flour shall conform to the limits of microorganisms in Table 2.

Table 2 – Limits for Microorganisms in composite flour

S/N	Microorganisms	Requirement	Test Method
1	Escherichia coli, cfu/g, max	$<1 \times 10^2$	ISO 16649-2
2	Salmonella, 25 g, max	Absent	ISO 6579-1
3	Yeast and Moulds, per g, max	10^4	ISO 21527-2

8. Contaminants

8.1 Pesticide residues

Composite flour shall conform to those maximum residue limits for pesticides established by the Codex Alimentarius Commission for this commodity.

8.2 Heavy metals

Composite flour shall comply with the heavy metal limits in Table 3 when tested in accordance with test methods specified therein.

Table 3 – Heavy metals limits for composite flour

S/N	Heavy metal	Limit mg/kg	Test method
i.	Arsenic (As)	0.1	AOAC 952.13 ISO 6633 ISO 6561-1/2
ii.	Lead (Pb)	0.2	
iii.	Cadmium (Cd)	0.1	

8.3 Mycotoxins

Composite flour shall comply with mycotoxin limits specified in Table 4 when tested in accordance with test methods specified therein.

Table 4 – Mycotoxins limits for composite flour

S/N	Mycotoxin	Maximum limit $\mu\text{g/kg}$	Test method EAS 901
i.	Total aflatoxins,	10	Clause 9 or 10
ii.	Aflatoxins B ₁ ,	5	



iii.	Fumonisin,	2 000	Clause 11 or 12
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8.4 Other contaminants

Composite flour shall conform to those maximum levels of the Codex General Standard for Contaminants and Toxins in Food and Feed (CODEX STAN 193).

9 Packaging

Composite flour shall be packaged in food grade material to safeguard the safety, hygienic, nutritional and organoleptic qualities of the product.

10 Weights and Measures

Composite flour shall be packaged in accordance with the Weights and Measures requirements of the destination country.

NOTE EAC Partner States are signatory to the International Labour Organizations (ILO) for maximum package weight of 50 kg where human loading and offloading is involved.

11 Labelling

11.1 In addition to the requirements of EAS 38, the following specific requirements shall apply and shall be legibly and indelibly marked;

- common name of the product, “composite flour”;
- name and address of the manufacturer/packer/importer;
- brand name/registered trade mark date of manufacture;
- list of ingredients;
- lot identification;
- net weight in metric units;
- expiry date;
- country of origin;
- the net weight in metric units;
- storage instruction as “Store in a cool dry place away from any contaminants”;
- Instructions on disposal of used package.

11.2 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 produce, lot identification and the name and address of the manufacturer or packer shall appear on the package



12 Method of sampling

Sampling shall be done in accordance with EAS 900.



DEAS 782:2018
ICS 67.060