



DEAS 1:2018

ICS 67.060

DRAFT EAST AFRICAN STANDARD

Wheat flour – Specification

EAST AFRICAN COMMUNITY

Fourth Edition 2018

Copyright notice

This EAC document is copyright-protected by EAC. While the reproduction of this document by participants in the EAC standards development process is permitted without prior permission from EAC, neither this document nor any extract from it may be reproduced, stored or transmitted in any form for any other purpose without prior written permission from EAC.

Requests for permission to reproduce this document for the purpose of selling it should be addressed as shown below or to EAC's member body in the country of the requester:

© East African Community 2017 – All rights reserved

East African Community

P.O. Box 1096

Arusha

Tanzania

Tel: 255 27 2504253/8

Fax: 255 27 2504481/2504255

E-mail: eac@eachq.org

Web: www.eac-quality.net

Reproduction for sales purposes may be subject to royalty payments or a licensing agreement. Violators may be prosecuted.

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 1 was prepared by Technical Committee EASC/ TC 014, *Cereals, pulses and related products*.

This fourth edition cancels and replaces the third edition (EAS 1:2017), which has been technically revised.

Wheat flour – Specification

1 Scope

This draft East African Standard specifies requirements, sampling and test methods for wheat flour prepared from common wheat, *Triticum aestivum* L. or club wheat, *Triticum compactum* Host, or mixtures thereof intended for human consumption.

It does not apply to wheat flour obtained from *Triticum durum* and fortified wheat flour.

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.

AOAC 952.13, *Arsenic in food – Silver diethyldithiocarbamate*

AOAC 965.22, *Sorting corn grits – Sieving method*

CODEX STAN 192, *General standard for food additives*

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

EAS 35, *Edible salt – Specification*

EAS 38, *Labelling of pre-packaged foods – Specification*

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

EAS 51, *Wheat grains – Specification*

EAS 900, *Cereals and Pulses - Sampling*

EAS 901, *Cereals and Pulses – Test Methods*

ISO 2171, *Cereals, pulses and by-products – Determination of ash yield by incineration*

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*

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

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 6888-1, *Microbiology of food and animal feeding stuffs -- Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species) -- Part 1: Technique using Baird-Parker agar medium*

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 Terms and definitions

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

3.1

wheat flour

product prepared from common wheat grain, *Triticum aestivum* L. or club wheat, *Triticum compactum* Host, or mixtures thereof by grinding or milling process

3.2

white wheat flour

wheat flour obtained by milling wheat grains at extraction rates that leaves negligible amounts of bran

3.3

patent flour

White wheat flour obtained by milling wheat grains at a lower extraction rate.

3.4

baker's flour

white wheat flour made from semi hard/hard wheat which has a medium to high protein content intended for bread making

3.5

home baking/all-purpose flour

white wheat flour obtained by milling either soft wheat grains or blends of hard and soft wheat grains used for making wide range of baked products

3.6

biscuit flour

white wheat flour obtained by milling soft wheat or a blend of hard and soft wheat with a high percentage of soft wheat for biscuit manufacture

3.7

cracker flour

white wheat flour obtained by milling medium protein wheat with no improvers

3.8**self-raising flour**

white wheat flour obtained by milling soft or a blend of soft and hard wheat to which raising agents are added

3.9**standard flour**

wheat flour obtained by milling wheat grains at a higher extraction than home baking flour

3.10**wholemeal flour**

wheat flour obtained by milling the entire wheat grain to fine particle size without any separation

3.11**atta flour**

wheat flour of high extraction rate or white wheat flour to which pollard and or bran are blended

3.12**food grade packaging material**

material which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product

3.13**foreign matter**

organic or inorganic material other than wheat flour

4 Quality requirements**4.1 General requirements**

4.1.1 The wheat grain from which the flour is obtained shall comply with EAS 51.

4.1.2 Edible salt, if used, shall comply with EAS 35.

4.1.3 Wheat flour shall:

- a) be characteristic of the colour of wheat from which it was prepared;
- b) be free from any objectionable flavour and odour;
- c) be free from insects, worms, fungal infestation, rodent contaminations and foreign matter; and
- d) not contain flour from other cereals. However, the addition of malted barley flour not exceeding 1 % is permissible in the case of baker's flour.

4.2 Specific requirements

4.2.1 Wheat flour shall comply with the requirements given in Table 1 when tested in accordance with the test methods specified therein.

Table 1 – Specific requirements for wheat flour

S/No	Characteristic	Type of flour									Test method
		Patent wheat flour	Baker's flour	Home baking flour	Biscuit flour	Cracker flour	Self-raising flour	Standard flour	Atta flour	Wholemeal flour	
i.	Moisture content, max, % m/m	14	14	14	14	14	14	14	14	14	EAS 901, Clause 5
ii.	Crude fibre content, max., % m/m	1.0	1.0	1.0	1.0	1.0	1.0	1.5	2.0	2.0	ISO 5498
iii.	Total ash content, max., % m/m	0.7	0.8	0.8	0.8	0.8	3.0	1.10	2.0	2.0	ISO 2171
iv.	Residue on sieving through 180-micron sieve, max., %	0.5	0.8	0.8	0.8	0.8	0.80	30.0	55.0	30.0	EAS 901, Clause 4
v.	Crude protein content, min, % m/m	8.0	9.0	8.0	8.0	8.0	8.0	9.0	8.0	8.0	EAS 901, Clause 6

4.2.2 In addition to the requirements in Table 1, self-raising flour shall contain:

- a) sodium bicarbonate in sufficient amounts to provide not less than 0.4 % of available carbon dioxide; and
- b) acid ingredients singly or in combination including sodium acid pyrophosphate, mono acid calcium phosphate and sodium aluminium phosphate.

5 Food additives

Wheat flour may contain only the permitted food additives in the CODEX STAN 192. The use of azodicarbonamide (ADA) and potassium bromate is not allowed.

6 Hygiene

6.1 Wheat flour shall be prepared and handled in accordance with EAS 39.

6.2 The product shall comply with microbiological limits given in Table 2 when tested in accordance with the test methods specified therein.

Table 2 – Microbiological limits for wheat flour

S/No	Micro-organism	Maximum limit	Test method
i.	Total aerobic count per g	10 ⁵	ISO 4833-1
ii.	<i>Escherichia coli</i> per 1 g	<1x10 ²	ISO 16649-2
iii.	<i>Salmonella</i> per 25 g	Absent	ISO 6579-1
iv.	Yeast and moulds cfu/g	10 ⁴	ISO 21527-2
v.	<i>Staphylococcus aureus</i> per 25 g	10 ²	ISO 6888-1

7 Contaminants

7.1 Heavy metals

Wheat flour shall comply with limits for heavy metals established by the Codex Alimentarius Commission as given in Table 3 when tested in accordance with the test methods specified therein.

Table 3 – Heavy metals limits for wheat flour

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

7.2 Pesticide residues

Wheat flour shall comply with pesticide residue limits established by the Codex Alimentarius Commission for this commodity.

7.3 Mycotoxins

Wheat flour shall comply with the mycotoxin limits established by the Codex Alimentarius Commission as given in Table 4 when tested in accordance with the test methods specified therein.

Table 4 – Mycotoxins limits for wheat flour

S/N	Mycotoxin	Maximum limit µg/kg	Test method EAS 901
i.	Total aflatoxins	10	Clause 9
ii.	Aflatoxin B ₁	5	Clause 10
iii.	Fumonisin	2000	Clause 11 Clause 12

8 Weights and measures

Wheat flour shall be packaged in accordance with the weights and measures regulations 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.

9 Packaging

Wheat flour shall be packaged in food grade packaging materials. When the product is packaged in sacks, these shall be clean, sturdy and strongly sewn or sealed.

10 Labelling

Labelling shall be done in accordance with EAS 38. At the minimum, the following information shall be displayed:

- a) product name as “Wheat flour”;
- b) type of wheat flour
- c) name, address and physical location of the manufacturer/ packer/importer;
- d) lot/batch/code number;
- e) net weight, in kilograms;
- f) the declaration “Food for Human Consumption”;
- g) storage instruction as
- h) “Store in a cool dry place away from any contaminants”;
- i) date of manufacture;
- j) expiry date;
- k) instructions on disposal of used package; and
- l) Country of origin.

11 Sampling

Sampling shall be done in accordance with EAS 900.

Bibliography

CODEX STAN 152-1985 (Rev. 1 - 1995), *Codex standard for wheat flour*

