FINAL DRAFT EAST AFRICAN STANDARD

Wheat 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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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.each.int
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Introduction

This revised standard has incorporated the specific compositional requirements for wheat flour. The standard has prescribed the permissible levels of food additives in wheat flour. Microbiological requirements for wheat flour have also been stipulated.

In the preparation of this East African Standard, the following sources were consulted extensively:

*United States Standards for Wheat*, Effective May 2006

*Wheat, Official Grain Grading Guide*, August 1, 2009, Canadian Grain Commission


Wheat flour — Specification

1 Scope

This East African Standard prescribes the requirements and methods of sampling and test for wheat flour (other than durum wheat flours) intended for human consumption.

2 Normative references

The following normative documents contain provisions which, through reference in this text constitute provisions of this East African

EAS 35, Edible salt — Specification
EAS 38, Labelling of prepackaged foods — Specification
EAS 39, Hygiene in the food and drink manufacturing industry — Code of practice
EAS 51, Grades of wheat grain — Specification
EAS 82, Milled cereal products — Methods of test
EAS 103, Schedule for permitted food additives

ISO 16050, Foodstuffs — Determination of aflatoxin B1, and the total content of aflatoxins B1, B2, G1 and G2 in cereals, nuts and derived products — High-performance liquid chromatographic method
ISO 13690, Cereals, pulses and milled products — Sampling of static batches
CODEX Stan 193, Codex general Standards for contaminants and toxins in Food and Feed
ISO 5498, Agricultural food products-Determination crude fibre content-General method
ISO 2171, Determination of Ash content
ISO 1871, Food and feed products -General guidelines for the determination of nitrogen by the Kjeldahl method

3 Terms and definitions

3.1 wheat flour
shall be the product made from milling clean wheat grains conforming to the requirements of EAS 51

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

3.4 bakers flour
white wheat flour obtained by milling high protein wheat intended for bread making

3.5 household or home baking flour
white wheat flour obtained by milling wheat grades or blends of hard and soft wheat intended for domestic use
3.6 biscuit flour
white wheat flour obtained by milling 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 low protein wheat with no improvers

3.8 self-raising flour
white wheat flour obtained by milling 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
wholemeal flour with coarse particles

4 Quality requirements

4.1 Raw materials
The wheat grain from which the flour is obtained shall be of sound quality, free from sand, have characteristic odour and flavour complying with the relevant East African Standards

4.2 General requirements
4.2.1 All types of wheat flour shall have the characteristic colour and shall be free from any objectionable flavours and odours.

4.2.2 The flour shall be free from insects, worms, fungal infestation, rodent contaminations and foreign matter.

4.2.3 The flour shall 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.

4.2.4 The shelf life shall be three months for wholemeal and atta, but six months for all other flours.

4.3 Specific requirements
The types of wheat flour shall comply with the compositional requirements given in Table 1
Table 1 — Specific requirements

<table>
<thead>
<tr>
<th>Types of flour</th>
<th>Moisture content, max. %, m/m</th>
<th>Fibre content, max. %, m/m</th>
<th>Total ash content, max. %, m/m</th>
<th>Residue on sieving through 180 micron-sieve, max. %</th>
<th>Protein content, min. %, m/m</th>
<th>Mixture of acid ingredients and sodium bicarbonate added, max. %, m/m</th>
<th>Total aflatoxin, Aflatoxin B1 only, ppb max</th>
<th>Fumonisin max. ppb</th>
</tr>
</thead>
<tbody>
<tr>
<td>White wheat flour:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baker's flour</td>
<td>13</td>
<td>1.0</td>
<td>0.70</td>
<td>0.80</td>
<td>11.0</td>
<td>–</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Home baking flour</td>
<td>13</td>
<td>1.0</td>
<td>0.70</td>
<td>0.80</td>
<td>9.0</td>
<td>–</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biscuit flour</td>
<td>13</td>
<td>1.0</td>
<td>0.55</td>
<td>0.50</td>
<td>8.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cracker flour</td>
<td>13</td>
<td>1.0</td>
<td>0.70</td>
<td>0.50</td>
<td>8.0</td>
<td>–</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-raising flour</td>
<td>13</td>
<td>1.0</td>
<td>2.0</td>
<td>0.80</td>
<td>8.0</td>
<td>4.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard flour</td>
<td>13</td>
<td>1.5</td>
<td>1.10</td>
<td>30.0</td>
<td>11.0</td>
<td>–</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Atta flour</td>
<td>13</td>
<td>2.0</td>
<td>2.0</td>
<td>55.0</td>
<td>12.0</td>
<td>–</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whole-meal flour</td>
<td>13</td>
<td>2.0</td>
<td>2.0</td>
<td>30.0</td>
<td>12.0</td>
<td>–</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test methods</td>
<td>ISO 6540</td>
<td>ISO 5498</td>
<td>ISO 2171</td>
<td>ISO 1871</td>
<td>ISO 16050</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.4 Self-raising flour

In addition to the specifications in Table 1, specific requirements for self-raising wheat flour may contain the following:

4.4.1 Edible salt conforming to EAS 35.

4.4.2 Acid ingredients

The acid ingredients shall be one or any combination of the following:

i) sodium acid pyrophosphate;

ii) mono acid calcium phosphate;

iii) sodium aluminium phosphate;

iv) sodium bicarbonate shall be in sufficient amounts to provide not less than 0.4 % of available carbon dioxide.

5 Food additives

The product shall contain only permitted additives complying with EAS 103.
5.1 Improvers

Improvers may be added singly or in combination, including but not limited to:

i) ascorbic acid \[\text{Maximum permitted level}\ 200 \text{ ppm;}

ii) potassium persulphate \[100 \text{ ppm;}

iii) ammonium persulphate \[250 \text{ ppm;}

iv) mono calcium phosphate \[2500 \text{ ppm;}

v) chlorine dioxide \[30 \text{ ppm.}

5.2 Bleachers (added singly)

i) nitrogen peroxide \[GMP;

ii) benzoyl peroxide \[150 \text{ mg/kg}

5.3 Diastatically actives (singly or combined)

i) malt flour (milled from highly diastatic barley) \[GMP;

ii) fungal enzyme (amylozyne or MYL-X) \[45 \text{ mg/kg}

NOTE All food additives shall be of food grade quality.

5.4 Azordicarbonamide (ADA) and Potassium Bromate

Shall not be used at all.

6 Hygiene

6.1 Wheat flour shall be produced, prepared and handled in accordance with the provisions of appropriate sections of EAS 39.

6.2 When tested by appropriate methods of sampling and examination, the product:

— shall be free from microorganisms in amounts which may represent a hazard to health;

— shall be free from parasites which may represent a hazard to health; and

— shall not contain any substance originating from microorganisms in amounts which may represent a hazard to health.
6.3 The product shall be free from pathogenic micro-organism and shall comply with microbiological limits in Table 2.

Table 2 — Microbiological limits

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Micro-organism</th>
<th>Maximum limit</th>
<th>Methods of test</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i)</td>
<td>Total aerobic count per g</td>
<td>$10^5$</td>
<td>EAS 217</td>
</tr>
<tr>
<td>(ii)</td>
<td>E. Coli per 1 g</td>
<td>Not detectable</td>
<td>EAS 217</td>
</tr>
<tr>
<td>(iii)</td>
<td>Salmonella per 25 g</td>
<td>Not detectable</td>
<td>EAS 217</td>
</tr>
<tr>
<td>(iv)</td>
<td>Yeast and Moulds cfu/g</td>
<td>$10^7$</td>
<td>EAS 217</td>
</tr>
<tr>
<td>(V)</td>
<td>S. aureus per 25 g</td>
<td>Not detectable</td>
<td>EAS 217</td>
</tr>
</tbody>
</table>

7 Contaminants

7.1 Heavy metals

Wheat flour shall comply with those maximum limits for heavy metals established by the Codex Alimentarius Commission for this commodity.

7.2 Pesticide residues

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

Note: where the use of certain pesticides is prohibited by some Partner States, then it shall be notified to all Partner States accordingly.

7.3 Mycotoxins:

Wheat flour shall comply with those maximum mycotoxin limits established by the Codex Alimentarius Commission for this commodity. In particular, total aflatoxin levels in wheat grains for human consumption shall not exceed 10 µg/kg (ppb) with B1 not exceeding 5 µg/kg (ppb) when tested according to ISO 16050.

8 Packaging

8.1 Wheat flour shall be packaged in containers which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product.

8.2 The containers, including packaging material, shall be food grade.

8.3 When the product is packaged in sacks, these must be clean, sturdy and strongly sewn or sealed.

9 Labelling

In addition to the requirements in EAS 38, each package shall be legibly and indelibly marked with the following:

i) product name as “wheat flour”

ii) name, address and physical location of the manufacturer/ packer/importer;

iii) lot/batch/code number;
FDEAS 1:2011

iv) net weight, in kg;

*Note: EAC partner states are signatory to the International Labour Organizations (ILO) for maximum package weight of 50kg, where human loading and offloading is involved.*

v) the declaration “Food for Human Consumption”;

vi) storage instruction as “Store in a cool dry place away from any contaminants”;

vii) Date of manufacture;

viii) expiry date;

ix) instructions on disposal of used package;

x) country of origin;

**10 Methods of sampling**

Sampling shall be done in accordance with the ISO 13690.