



DEAS 932: 2018

ICS 55.120

DRAFT EAST AFRICAN STANDARD

Paper plates and cups for food packaging — 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.

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 066, *Packaging*.

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.

During the preparation of this Standard, reference was made to the following document:

IS 3263, *Specification for Ice cream Cups and lids*

Acknowledgment is hereby made for the assistance derived from this source.

Paper plates and cups for food packaging — Specification

1 Scope

This Draft East African Standard specifies the requirements, methods of sampling and test for paper plates and cups with or without lids used for food packaging.

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.

EAS 880, *Waxed paper for packaging of confectionery — Specification*

ISO 287, *Paper and board — Determination of moisture content of a lot — Oven-drying method*

ISO 536, *Paper and board — Determination of grammage*

ISO 5628, *Paper and board -- Determination of bending stiffness -- General principles for two-point, three-point and four-point methods*

ISO 13302, *Sensory analysis -- Methods for assessing modifications to the flavour of foodstuffs due to packaging*

ISO 216, *Writing paper and certain classes of printed matter — Trimmed sizes — A and B series, and indication of machine direction*

ISO 8784-1, *Pulp, paper and board — Microbiological examination — Part 1: Total count of bacteria, yeast, mould based on disintegration*

ISO 13914, *Soil quality — Determination of dioxins and furans and dioxin-like polychlorinated biphenyls by gas chromatography with high-resolution mass selective detection (GC/HRMS)*

ISO 2758:2014, *Paper — Determination of bursting strength*

ISO 21067, *Packaging — Vocabulary*

ISO 4046-5, *Paper, board, pulps and related terms — Vocabulary — Part 5: Properties of pulp, paper and board*

ISO 4046-4, *Paper, board, pulps and related terms — Vocabulary — Part 4: Paper and board grades and converted products*

2 Terms and definition

2.1

Lids

XXX

2.2

Wax

XXX

2.3

Machine Direction (MD)

XXX

2.4

Cross Direction (CD)

XXX

3 Requirements

3.1 General requirements

Paper plates and cups shall:

- a) be made from virgin, chemical wood pulp, blended or recycled,
- b) not have Ingredients harmful to human health, and
- c) be free from defects including but not limited to holes and unprocessed wood fibre.

3.2 Specific requirements

Paper plates and cups shall comply with specific requirements given in Table 1.

Table 1 — Physical requirements of used for paper plates and cups used for food packaging

S/N	Characteristic	Requirement	Test method
i.	Grammage, gsm, min	133	ISO 536
ii.	Stiffness of the paper, g cm, min	MD	ISO 5628
		CD	
iii.	For waxed plate, cups, Paraffin wax and its blends, melting point, °C, min.	60	Annex A
iv.	For waxed plate, cups, Wax content, % mass, min.	Grade 1	EAS 880
		Grade 2	
v.	Burst factor, kPa, min.	20	ISO 2758
vi.	Water vapour permeability, when tested for 24 h at 38 °C ± 1 °C and 90 % ± 2 % RH, g/m ³ , max.	140	ISO 16532-1
vii.	Odour	- ^a	ISO 13302

viii.	Dimension(Diameter of plate), mm	- ^b	ISO 216
ix.	Volume of the cups	- ^c	
^a Shall not Impart off flavor on the product being packaged ^b As per the declaration with a tolerance of ±1 ^c Within the tolerance of dimension declared in accordance to ISO 216			

3.3 The heavy metal and organic pollutants requirements

The heavy metal contaminants and organic pollutants if present shall not exceed the limits stated in Table 2.

Table 2 — Limits of heavy metal and organic pollutants of paper plates and cups for food packaging

S/N	Contaminant	Maximum limits mg/kg	Test method
i.	Cadmium (Cd ²⁺)	0.5	EAS 880
ii.	Chromium Cr ⁶⁺	0.05	
iii.	Lead (Pb ²⁺)	3.0	
iv.	Mercury (Hg ²⁺)	0.3	
v.	Pentachlorophenol (PCP)	0.05	
vi.	Polychlorinated biphenyl	2.0	

3.4 Resistance to deep freezing for paper plates and cups with lids

When tested in accordance with Annex B the products shall withstand the deep freeze conditions for 30 days.

3.5 Microbiological requirements

Paper plates and cups shall comply with microbiological requirements given in Table 3.

Table 3 — Microbiological limits for paper plates and cups

S/N	Characteristic	Limit	Test method
i.	Total plate count, cfu/m, max.	300	ISO 8784-1
ii.	<i>Pseudomonas aeruginosa</i> , cfu/g	Not detected in 1 g of the product	
iii.	<i>Staphylococcus aureus</i> , cfu/g		
iv.	<i>Candida albicans</i> , cfu/g		
v.	<i>Escherichia coli</i> , cfu/g		

3.6 Leak proofness

When tested in accordance with Annex C, the paper paper plates and cups shall be leak proof. There shall be no cracks on the outer curling of the paper paper plates and cups and the base curling shall be uniform. Glue spots shall be absent where the paper paper plates and cups are seamed.

4 Packaging

Paper plates and cups shall be packed in suitable materials that prevent them from contamination and damage during normal handling, storage and transportation.

5 Labelling

5.1 Paper plates and cups shall be legibly and indelibly labelled with batch number and manufactures/suppliers name or trade mark or both at the bottom

5.2 Paper plates and cups shall be legibly and indelibly marked with the following information:

- a) manufactures/suppliers name or trade mark or both;
- b) words, "made from virgin pulp, blended and recycled";
- c) month and year of manufacture;
- d) the volume of the cups with lids;
- e) number of pieces;
- f) dimension in millimetres; and
- g) country of origin/manufacture.

Annex A (normative)

Determination of melting point of wax

A.1 Apparatus

A.1.1 Thermometer - Accuracy of 0.1 °C and graduated at every 0.1 °C

A.1.2 Test tube - With centrally bored cork for insertion of the thermometer. The cork shall have slit to permit circulation of air

A.1.3 Water bath - With a thermometer

A.2 Procedure

Melt the sample of wax by warming it in a water bath at a temperature just sufficient to melt it. Dip the thermometer and withdraw, so as to get the bulb thinly coated with the wax. Let it cool. Insert this thermometer into the test tube through the bored cork and then place the test tube in the water bath. Raise the temperature gradually, at the rate of 1°C in 3 minutes. Note the temperature, accurately to 0.1 °C at which a transparent drop forms on the bottom of the thermometer bulb. Record this temperature as the melting point of the wax

Annex B (normative)

Resistance to deep freezing

B.1 Apparatus

Freezing compartment that can be operated up to -40 °C

B.2 Materials

Paper plates and cups

B.2 Procedure

B.2.1 Sample paper plates and cups are placed in a freezing compartment that operates up to -35 °C for a period of 30 days.

B.2.2 At the end of this period the samples are removed from the compartment and observed for any defects such as separation of the seam, fading of the prints, deformation etc.

B.3 Conclusion

The sample shall comply if no defects mentioned in B.2 are observed.

Annex C (normative)

Leak proofness

C.1 Apparatus

Paper plates, cups with lids

C.2 Reagents

Water

C.3 Procedure

The sample paper plates, cups with lids shall be filled with water and checked after 5 minutes for any leakage. The paper plates, cups with lids shall have complied with requirement if no leakage is observed.

Bibliography

KS 2799, *Paper plates and cups for food packaging — Specification*

Draft East African Standard for Public Review

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