



DRAFT EAST AFRICAN STANDARD

Toy plastic balloon — Specification

EAST AFRICAN COMMUNITY

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 2025 — All rights reserved
East African Community
P.O. Box 1096,
Arusha
Tanzania
Tel: + 255 27 2162100
Fax: + 255 27 2162190
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.

Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
5 Requirements	2
5.1 General requirements	2
5.2 Specific requirements	2
5.2.1 Film thickness	2
5.2.2 Limits for heavy metals	2
5.2.3 Barrier Performance	Error! Bookmark not defined.
5.2.4 Chemical limits	2
6 Labelling	2
7 Sampling	3
Annex A (normative) Determination of thickness of plastic film and sheeting	4
A.1 Apparatus	4
A.2 Procedure	4
Annex B (normative) Determination of oxygen permeability rate	Error! Bookmark not defined.
B.1 Apparatus	Error! Bookmark not defined.
B.2 Procedure	Error! Bookmark not defined.
Bibliography	5

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 072, *Plastics 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.

Introduction

A balloon is a flexible membrane bag that can be inflated with a gas, such as helium, hydrogen, nitrous oxide, oxygen, or air. For special purposes, balloons can be filled with smoke, liquid water, granular media (e.g. sand, flour or rice), or light sources. Modern day balloons are made from materials such as rubber, latex, polychloroprene, or a nylon fabric, and can come in many different colors. A balloon's properties, including its low density and low cost, have led to a wide range of applications. Balloons are used as toys, as hot air balloons, in medicine, in water play, and decorations.

Balloons are available as latex balloons, foil balloons, LED balloons.

DRAFT EAST AFRICAN STANDARD ON PUBLIC REVIEW

Toy plastic balloon — Specification

1 Scope

This Draft East African Standard specifies the requirements, sampling, and test methods for toy plastic balloon including, foil/Mylar balloons.

This Draft East African Standard does not apply to LED balloons, barrage balloons, decorative balloons and balloon catheters.

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 2859-1, *Sampling procedures for inspection by attributes, Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection*

ISO 8124-3, *Safety of toys — Part 3: Migration of certain elements*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

toy balloon

small balloon mostly used for decoration, advertising and as a toy

3.2

foil/Mylar balloon

decorative balloon made from a thin, flexible plastic film coated with a metallic layer, typically polyester or nylon

3.3

barrage balloon

large, unscrewed, gas-filled balloons tethered to the ground with steel cables, historically deployed as a defensive military measure to protect ground targets from low-flying enemy aircraft.

3.4
catheter intended to be used to dilate a vessel, lumen, papilla or fistula, which is manufactured with a tube and a balloon at the distal end for dilation

3.5
LED balloon
decorative balloon that contain light-emitting diodes (LEDs) inside or attached to them, designed to illuminate the balloon for visual or decorative purposes

5 Requirements

5.1 General requirements

5.1.1 Films shall be uniform in appearance and free from visible contaminants, inclusions, or foreign particles.

5.1.2 All materials (films, inks, adhesives) shall comply with the chemical safety limits specified in Clause 5.2.4.

5.1.3 Balloons shall not contain small detachable parts that pose a choking hazard to children.

5.1.4 Mouth-actuated sections (if any) shall withstand repeated use without structural degradation.

5.2 Specific requirements

5.2.1 Film thickness

Plastic toy balloon shall have an average thickness of ≥ 0.038 mm and no single measurement shall fall below 0.032 mm when tested in accordance with Annex A.

5.2.2 Limits for heavy metals

Migration limits for heavy metals contained in the colorants shall be in accordance with those in ISO 8124-3 when tested in accordance with the methods listed there in.

5.2.4 Chemical contaminants limits

Chemical contaminants limits in plastic toy balloons shall be in accordance with Table 1.

Chemical	Limit	Test method
Lead (Pb)	≤ 100 mg/kg	ISO 8124-3
Cadmium (Cd)	≤ 75 mg/kg	ISO 8124-3
Phthalates	$\leq 0.1\%$ each	ISO 8124-6
Residual monomers (e.g., styrene)	≤ 500 mg/kg	ISO 13741-1

6 Labelling

The container of the toy plastic balloons shall be legibly and indelibly labelled in English/Kiswahili and/or any other official language with the following information:

- a) name and physical address of manufacturer and/or registered trademark;
- b) country of origin.
- c) number of balloons in the container
- d) batch/lot number
- e) instructions for use
- f) safety warnings (e.g., age warning/limits)
- g) precautionary information
- h) disposal guidance

7 Sampling

Sampling shall be done in accordance with ISO 2859-1.

DRAFT EAST AFRICAN STANDARD ON PUBLIC REVIEW

Annex A

(normative)

Determination of thickness of plastic film and sheeting

A.1 Apparatus

A measuring device capable of measuring thickness to an accuracy of 1 μm in accordance with ISO 4593 with plane upper and lower measuring surfaces having a diameter of (6 ± 1) mm that are parallel to within 5 μm and have polished surfaces, and which applies a compression force of (0.75 ± 0.25) N..

A.2 Procedure

A.2.1 Condition the specimen for at least 1 h at (21 ± 5) °C.

Note The thickness requirement in a) applies to double layers and the thickness measurements are taken on double layers of plastic sheeting (i.e. the thickness is measured without inflating or cutting or destroying the balloon)

A.2.2 Ensure that the specimens and the faces of the measuring device are free from contamination (e.g. dust).

A.2.3 Check the zero point of the measuring device before starting the measurements and recheck after each series of measurements.

A.2.4 When determining the thickness, lower the foot gently to avoid deforming the material.

A.2.5 Take a 100 mm $\times$ 100 mm square area of the sheet.

A.2.6 Draw the diagonal line across that square (corner to corner).

Note A diagonal covers the longest line across the square, giving a representative sample of the material.

A.2.7 Along that diagonal, select 10 equally spaced points.

Note Measuring at 10 equidistant points ensures thickness variations across the sheet are captured, not just at one spot.

A.2.8 At each of those points, measure the sheet's thickness.

A.2.9 Determine whether the thickness complies with the requirements of 5.2.1.

Bibliography

- [1] https://en.wikipedia.org/wiki/Toy_balloon
- [2] ISO 8600-6:2020(en), Endoscopes — Medical endoscopes and endotherapy devices — Part 6: Vocabulary
- [3] ISO 8124-1, *Safety of toys - Part 1 Safety aspects related to mechanical and physical properties*

DRAFT EAST AFRICAN STANDARD ON PUBLIC REVIEW

DRAFT EAST AFRICAN STANDARD ON PUBLIC REVIEW