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Toilet paper — Specification — Part 2: Jumbo toilet tissue paper

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National foreword

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This Draft Uganda Standard, DUS DEAS 355-2: 2021, *Toilet paper — Specification — Part 2: Jumbo toilet tissue paper*, is identical with and has been reproduced from a Draft East African Standard, DEAS 355-2: 2021, *Toilet paper — Specification — Part 2: Jumbo toilet tissue paper*, and is being proposed for adoption as a Uganda Standard.

The committee responsible for this document is Technical Committee UNBS/TC 7, *Food and agriculture Textiles, Leather, Paper and related products*, Subcommittee SC 3, *Paper and paper products*.

Wherever the words, "East African Standard " appear, they should be replaced by "Uganda Standard."



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DRAFT EAST AFRICAN STANDARD

Toilet paper — Specification — Part 2: Jumbo toilet tissue paper

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 065, Paper and Paper Products.

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Toilet paper — Specification — Part 2: Jumbo toilet tissue paper

1 Scope

This Draft East African Standard specifies the requirements, sampling and test methods for Jumbo toilet tissue paper (also known as “jumbo tissue roll”, “jumbo roll tissue”) supplied in rolls, reels and sheets.

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 186, *Paper and board — Sampling to determine average quality*

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

ISO 2470-1, *Paper, board and pulps — Measurement of diffuse blue reflectance factor — Part 1: Indoor daylight conditions (ISO brightness)*

ISO 8784-1, *Pulp, paper and board — Microbiological examination — Part 1: Enumeration of bacteria and bacterial spores based on disintegration*

ISO 11093-4, *Paper and board — Testing of cores — Part 4: Measurement of dimensions*

ISO 12625-4, *Tissue paper and tissue products — Part 4: Determination of tensile strength, stretch at break and tensile energy absorption*

ISO 12625-5, *Tissue paper and tissue products — Part 5: Determination of wet tensile strength*

ISO 12625-6, *Tissue paper and tissue products — Part 6: Determination of grammage*

ISO 12625-8, *Tissue paper and tissue products — Part 8: Water-absorption time and water-absorption capacity, basket-immersion test method*

ISO 29681, *Paper, board and pulps — Determination of pH of salted water extracts*

3 Terms and definitions

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

3.1

cross-direction (CD)

direction in the plane of a paper perpendicular to the machine direction

3.2

machine Direction (MD)

the direction of a paper corresponding to the direction of flow of the stuff on the paper machine

3.3

sheet

the portion of toilet paper between consecutive rows of perforations on a roll irrespective of whether the toilet paper is single-ply soft or strong or double-ply soft

3.4

hole

an area in a sheet void of fibres and having a diameter that exceeds 4 mm

3.5

lot

rolls of toilet paper of the same grade and color which have been manufactured from the same base material and under essentially the same conditions

3.6

ply

layer of single sheet

3.7

virgin tissue paper

tissue made from bleached chemical virgin pulp

3.8

recycled tissue paper

tissue made from recycled pulp

3.9

blended tissue paper

tissue made from a mixture of pure and recycled pulp

4 General requirements

4.1 The Jumbo tissue in rolls or reels shall comprise a long, single or multi ply toilet paper evenly and firmly wound on a stiff cylindrical tubular core

4.2 The width of the wound paper shall be equal to the length of the core. During winding, the paper shall be kept stretched to prevent formation of creases.

4.3 The Jumbo tissue rolls, if perforated, shall be perforated across the full width along the length of the roll. The perforation shall be such that they are in line for both plies and each sheet could be readily torn off along the perforations without causing damage to itself or to the neighbouring sheet.

4.4 Grading of jumbo tissue shall be in accordance with the kind of paper and as follows:

- a) virgin tissue not including any mechanical pulp;
- b) recycled tissue paper; and
- c) blended.

5 Requirements for materials and manufacture

5.1 Cleanliness

Jumbo tissue roll shall not at any time during the manufacture and packing be exposed to conditions that do not conform to good hygienic practice.

5.2 Chemicals

All chemicals including dyes used in manufacture of Jumbo tissue roll should not cause irritation of the skin.

5.3 Material of the core

The material of the core shall be such that the core is rigid enough not to collapse under normal conditions of transportation and usage.

5.4 Paper

5.4.1 The paper shall be free from deleterious defects (e.g. fibre bundles, wood splinters) and from defects that may impair its serviceability.

5.4.2 The paper shall be white or colored and shall comply with the requirements given in Tables 1 and 2.

5.5 Specific requirements

5.5.1 Physical and chemical requirements

When tested in accordance with the methods given, the Jumbo tissue roll shall comply with the requirements as given in Table 1

Table 1 — Physical and chemical requirements

SL No	Property		Requirement	Test method	
i)	Grammage per ply , g/m ² .	Virgin tissue	15-21	ISO 12625-6	
		Blended tissue	15-24		
		Recycled tissue	15-24		
ii)	Dry Tensile strength N/m of width, Min.	M D	multi ply (per ply)	140	ISO 12625-4
			single ply	220	
		C D	multi ply (per ply)	40	
			single ply	107	
iii)	Wet Tensile strength N/m of width, Min.	MD	multi ply (per ply)	33	ISO 12625-5
			single ply	36	
		CD	multi ply	17	
			single ply (per ply)	18	
iv)	Water absorption, mm/min, Min.		20	ISO 12625-8	

v)	pH value	4.4- 10.0	ISO 29681
vi)	Moisture content, m/m, %.	4.0 - 7.0	ISO 287
vii)	Brightness of white paper, %, Min.	73	ISO 2470-1
viii)	Perforation ratio, Min.	0.75	Annex A

5.5.2 Microbiological examination

The jumbo tissue roll and sheets shall comply with the microbiological requirements in Table 2.

Table 2 — Microbiological limits for Jumbo tissue roll (Plus size toilet paper)

SL No.	Characteristic	Limit	Test method
i)	Total plate count, cfu/g, 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		

5.5.3 Dimensional requirements

The jumbo tissue roll and sheets shall comply with the dimensional requirements given in Table 3 when determined with the test methods specified therein.

Table 3 — Dimensional requirements for Jumbo tissue in rolls and sheets

SL No.	Characteristic	Requirement	Tolerance	Test method
i)	Internal diameter of the core, mm	40 – 75	± 3	ISO 11093-4
ii)	Length of the core, mm, Min.	100	-	
iii)	Width of each sheet, mm, Min.	100	-	
iv)	Length of each sheet, mm,	125	± 1	
v)	Length of roll, mm, Min.	86 552	-	
vi)	Number of sheets, Min.	700 sheets in increasing multiples of 100	Declared number of sheets shall be ± 2	Visual

5.5.4 Freedom from holes

The average number of holes in the sheets of a roll shall not exceed 5 per hundred sheets.

5.5.5 Constructions of rolls

The paper shall be evenly and firmly wound on a cylindrical core. The number of malformed sheets at the core end of a roll shall not exceed five.

6 Wrapping, packaging and marking

6.1 Wrapping

Jumbo tissue roll shall be wrapped individually. Wrappers shall cover the roll completely.

6.2 Packaging

6.2.1 Rolls shall be packed in suitable packages that shall not affect the quality of the paper during handling, transportation and storage.

6.2.2 Jumbo tissue rolls of the same grade, size, length and color shall be packed together.

6.3 Labelling

Each package shall be legibly and indelibly labelled in either English, Kiswahili or French or a combination with the following information:

- a) name and address of the manufacturer and/or trade mark;
- b) name of the product "jumbo tissue roll (plus size toilet paper)" or "jumbo roll tissue";
- c) number of plies
- d) the word "perforated" or "non-perforated"
- e) grade of the paper "virgin", "recycled", or "blended" and if the package is opaque the color(s) of the paper;
- f) length of the roll;
- g) number of sheets of each roll (if perforated); and
- h) country of origin or manufacture.

7 Sampling

Sampling shall be done in accordance with ISO 186

Annex A (normative)

Determination of perforation ratio

A.1 Apparatus

Appropriate measuring device, such as a metre rule graduated with 0.5 mm interval.

A.2 Procedure

Using a metre ruler, measure the perforations of one perforation line. The sum of the perforations divided by the width of the paper gives the ratio of perforations to the width. Measure the perforation of five lines and take the mean of the ratio.

A.3 Results

The mean ratio shall not be less than that specified in Table 1.

Bibliography

KS 2586:2016, *Jumbo tissue roll (plus size toilet paper) — Specification*

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