DRAFT TANZANIA STANDARD

TBS/CDC-10 (1964) P3 KRAFT PAPER — SPECIFICATION

TANZANIA BUREAU OF STANDARDS

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First Edition 2019
0 Foreword

This Draft Tanzania Standard is being developed by Stationery and Paper Products Technical Committee under supervision of the Chemicals Divisional Standards Committee and it is in accordance with the procedures of the Bureau.

This Draft Tanzania Standard is the first edition of Kraft paper – Specification.

This draft Tanzania Standard has been prepared with assistance drawn from the following documents:

IS 1763: 2018 Specification for substances of paper and pulp board, published by India Bureau of Standards

The assistance obtained from the above source is hereby acknowledged with thanks.

For the purpose of deciding whether a particular requirement of this Tanzania Standard is complied with, the final value observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with TZS 4-
Kraft Paper – Specification

1 Scope

This draft Tanzania Standard specifies the requirements, sampling, and test methods of Kraft paper for manufacture of wrapping and general packaging purpose.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

TZS 4: Rounding off numerical values
TZS 79: - ISO 2758: Paper – Determination for bursting strength
TZS 80: Paper – Sampling methods for testing
TZS 81: Method for the determination of grammage (basic mass)
TZS 82: - ISO 187, Paper board and pulps — Standard atmosphere for conditioning and testing and procedure for monitoring the atmosphere and conditioning of samples
TZS 83: - ISO 287; Paper and board — Determination of moisture content of a lot — Oven-drying method
TZS 84: Paper and board — Determination of opacity (paper backing) — Diffuse reflectance method
TZS 423: - ISO 535; Paper and board — Determination of water absorptiveness- cobb method
TZS 748-2: - ISO 1924-3, Paper and board — Determination of tensile properties — Part 3: Constant rate of elongation method (100 mm/min)
TZS 891: - ISO 534; Paper and board — Determination of thickness, density and specific volume
ISO 6588-1: Paper, board and pulps — Determination of pH of aqueous extracts — Part 1: Cold extraction
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)
3 Terms and definitions

For the purpose of this draft Tanzania Standard the following definitions shall apply:

3.1 bursting strength

maximum uniformly distributed pressure, applied at right angles to its surface, that a test piece of paper or board will stand, under specified test conditions

3.2 Kraft paper

paper manufactured from bleached or unbleached pulp, recycled fibres and non-wood in combination with sulphate pulp and having the desired properties as laid down in this standard.

3.3 cross direction (CD)

direction in the paper that is at right angles to the machine direction

3.4 defective

set of test pieces that fails in one or more respects to comply with the relevant requirements of the standard

3.5 grammage (substance)

mass of unit area of paper or board determined by the specified method of test and expressed in grams per square meter and conditioned in accordance with TZS 82/ISO 187

3.6 nominal grammage (substance)

the value of the mass per unit area used for reference purposes (i.e. when purchasing material)

3.7 actual grammage (substance)

the value of the mass per unit area determined by testing

3.8 long grain

orientation when the machine direction of the paper is in the long direction of the sheet

3.9 lot

one or more nominally identical package of paper, the paper having been made on the same equipment under essentially the same conditions, from one manufacturer, and submitted at any one time for inspection and testing.

3.10 machine direction (MD)

direction in a paper or a board parallel to the direction of travel of the web on the paper or board machine

3.11 sizing

the addition of materials in the pulp stock or on the surface of the sheet (surface sizing) in order to increase paper resistance to the spontaneous penetration of aqueous liquids and its resistance to the surface spreading of such liquids.
4 Requirements

4.1 General requirements

4.1.1 Kraft paper shall be in three types, A, B and C:

4.1.1.1 Type A is made from 100% sulphate pulp (bleached or unbleached), or from combination of any other material that will ensure compliance with the requirements given in Table 1. Type A is known as virgin bag kraft paper.

4.1.1.2 Type B may be made from 100% waste paper or combination of waste paper and agricultural waste or any other material that will ensure compliance with the requirements given in Table 1. Type B is known as recycled bag kraft paper.

4.1.1.3 Type C may be made from non-wood in combination with sulphate pulp or any other material that will ensure compliance with the requirements given in Table 1. Type C is known as semi-virgin bag kraft liner paper.

4.1.2 The surface shall be machine glazed (MG) or machine finished (MF). The surface should also be receptive to printing.

4.1.3 The material if used for the packaging of food materials, shall be manufactured from virgin pulp or recycled material and shall be free from dioxins as per TZS 2569.

4.1.4 The surface of the paper shall be such as to accept the adhesives commonly used in the manufacture of corrugated board.

4.1.5 The papers shall be free from fibre bundles, tears, shives, foreign matter, specks, holes, blemishes, creases and other visible defects and shall be uniform in texture.

4.1.6 The paper shall be of reasonably good formation or uniform formation, thickness and substance.

4.2 Specific requirements

4.2.1 Kraft paper shall be manufactured as per the following preferred substances and requirements given in Table 1.

<table>
<thead>
<tr>
<th>Range of substance g/m²</th>
<th>Steps of increment of substance g/m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>52 - 60</td>
<td>4</td>
</tr>
<tr>
<td>60 - 80</td>
<td>5</td>
</tr>
<tr>
<td>80 - 100</td>
<td>10</td>
</tr>
</tbody>
</table>

4.2.3 Kraft paper shall comply with the relevant requirement given in Table 1 when tested in accordance with the method specified therein.
Table 1 – Specific requirement for Kraft paper

<table>
<thead>
<tr>
<th>S/No.</th>
<th>Characteristic</th>
<th>Requirement</th>
<th>Test method (see clause 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Product range (Nominal grammage, g/m²)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>Grammage, g/m², ± 5 %</td>
<td>52 – 100</td>
<td>TZS 81</td>
</tr>
<tr>
<td>ii.</td>
<td>Moisture content, %, m/m</td>
<td>6 – 7.5</td>
<td>TZS 83</td>
</tr>
<tr>
<td>iii.</td>
<td>pH, Min</td>
<td>5.5</td>
<td>ISO 6588-1</td>
</tr>
<tr>
<td>iv.</td>
<td>Tensile index, Nm/g, MD, min.</td>
<td></td>
<td>TZS 748-2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Type A</td>
<td>Type B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>65</td>
<td>29.5</td>
</tr>
<tr>
<td>v.</td>
<td>Tensile index, Nm/g, CD, min.</td>
<td>34.5</td>
<td>15.5</td>
</tr>
<tr>
<td>vi.</td>
<td>Tear index, mNm²/g, MD, min</td>
<td>7.0</td>
<td></td>
</tr>
<tr>
<td>vii.</td>
<td>Tear index, mNm²/g, CD, min</td>
<td>9.0</td>
<td></td>
</tr>
<tr>
<td>viii.</td>
<td>Bulk, cc/g</td>
<td>1.5 - 1.9</td>
<td></td>
</tr>
<tr>
<td>ix.</td>
<td>Porosity (Bendtsen), mL/min, min</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>x.</td>
<td>Burst Index, KPa.m²/g, Dry, min</td>
<td>1.8</td>
<td></td>
</tr>
<tr>
<td>xi.</td>
<td>Cobb 60 seconds, g/m², 27°C, Top side, Max</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>xii.</td>
<td>Cobb 60 seconds, g/m², 27°C, Wire side, Max</td>
<td>30</td>
<td></td>
</tr>
</tbody>
</table>

5 Dimensions

The size of the sheets or rolls shall be as agreed between the purchaser and the supplier. The permissible tolerance on the size shall be in accordance with clause 4 of TZS 63.

5.1 Joints

All joints shall be joined properly using a suitable adhesive. A suitable, nontoxic and environmentally friendly adhesive shall be used and shall be adequately resistant to moisture and climatic conditions. There shall be not more than three joints in a roll.
## 6 Sampling

6.1 Sampling methods shall be carried out as prescribed in **TZS 80**.

### 6.2 Number of Tests

Each of the rolls/packages selected from the lot shall first be examined for the requirements given in 5 and 4.2. Then a sheet of suitable size from rolls shall be cut, taking at least the top three layers. Test pieces shall then be cut from sheets for testing requirements mentioned in 4.1, 4.2 and 5. Tests for these characteristics except pH shall be conducted individually on each of the sample sheet. A roll or sheet not meeting the requirements for any one or more of these characteristics shall be considered as defective. Test for pH shall be conducted on composite sample.

### 6.3 Criteria for conformity

A lot shall be declared as conforming to the requirements of this the standard if the requirements in clause 4.2 are satisfied and if the number of defective roll and sheets does not exceed the acceptance number. This acceptance number shall depend on the size of the sample and shall be equal to 0 if the sample size is less than 13. It shall be equal to 1 if the sample size is greater than or equal to 13.

## 7 Tests methods

Samples of bag Kraft paper shall be conditioned in accordance with TZS 82/ISO 187.

## 8 Packaging and marking

### 8.1 Packaging

8.1.1 Packaging requirements will vary according to the roll’s diameter and width, bag Kraft paper shall be packed in rolls on a core of 75 to 100 mm inside diameter and in length equivalent to the width of paper, with a wooden or plastic plug at each extending to a minimum of 75 mm into the core.

8.1.2 When supplied in sheets packages shall contain 500 or 250 sheets according to the size and weight of the paper or packed as agreed between the purchaser and the supplier.

8.1.3 Bag Kraft paper shall be packaged in suitable material that protects it from dust, moisture and dirt during transportation, storage and normal use.

### 8.2 Marking

8.2.1 Each roll, ream or package shall be legibly and indelibly marked with the following:

- a) Description, type of the kraft paper and the paper grammage (actual);
- b) Batch number or code number;
- c) Month and year of manufacture;
- d) Machine direction;
- e) Size of sheet or of roll;
- f) Weight in Kg of the roll including the mass of the core and plugs;
- g) Country of origin/manufacture;
- h) Name and physical address of the manufacturer or local distributor and registered trademark.

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