Machine finished Kraft paper for packaging of dry foods ― Specification

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Paper bags Limited

Dodhia packaging

Allpack Industries Limited

East Africa paper mills

Kenya Industrial Research Development Institute

Dune Packaging

Kenya Association of Manufacturers

Bags and Balers M.L

Pakmart Technical Services

East Africa packaging Industries

King Plastics Industries Limited

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Government Chemist's Department

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Foreword

This Kenya Standard was prepared by Packaging Technical Committee under the guidance of the Standards Projects Committee, and it is in accordance with the procedures of the Kenya Bureau of Standards.

Kenya Bureau of Standards (KEBS) has established Technical Committees (TCs) mandated to develop Kenya Standards (KS). The Committees are composed of representatives from the public and private sector organizations in Kenya.

Kenya Standards are developed through Technical Committees that are representative of key stakeholders including government, academia, consumer groups, private sector and other interested parties. Draft Kenya Standards are circulated to stakeholders through the KEBS website and notifications to World Trade Organization (WTO). The comments received are discussed and incorporated before finalization of the standards, in accordance with the Procedures for Development of Kenya Standards.

Kenya Standards are subject to review, to keep pace with technological advances. Users of the Kenya Standards are therefore expected to ensure that they always have the latest versions of the standards they are implementing.

Kraft liner is made from furnish containing over 80 % of kraft pulp, which is sulphate pulp used especially for the manufacture of kraft liner. The kraft liner is attached to the corrugating medium suitably to give the corrugated board the desired quality. Kraft liner used for making corrugated board boxes has a substance of less 125 g/m2 minimum.

This Second Edition cancels and replaces the First Edition (KS 2892:2021) Specification for kraft liner, which has been technically revised.

The main changes as compared to the previous edition is as follows

• Definition of a kraft liner added in clause 3

• Addition of clause 4.1 General requirements

• Deletion of clause 4.2 Grammage already covered by Table 1

• Revision of clause 4.1.3 joints to read “not more than one joint”

• Revision of all the parameters in Table 1

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1. **Scope**

This Kenya Standard specifies the requirements, sampling and test methods for machine finished Kraft paper used for packaging of dry food such as sugar, flour etc.

1. **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.

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

KS EAS 933, Paper and board intended to come into contact with foodstuffs — Determination of formaldehyde in an aqueous extract

KS ISO 186, Paper and board — Sampling to determine average quality

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

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

KS ISO 536, Paper and board — Determination of grammage

KS ISO 1924-2, Paper and board — Determination of tensile properties — Part 2: Constant rate of elongation method (20 mm/min)

KS ISO 1924-3, Paper and board — Determination of tensile properties — Part 3: Constant rate of elongation method (100 mm/min)

KS ISO 2758, Paper — Determination of bursting strength

KS ISO 4046: Parts 1 to 5, Paper, board, pulps and related terms — Vocabulary

KS ISO 5637, Paper and Board — Determination of water absorption after immersion in water

KS ISO 6588-1, Paper, board and pulps — Determination of pH of aqueous extracts — Part 1: Cold extraction

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

KS 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)

1. **Terms and definitions**

For the purposes of this document, the terms and definitions given in KS ISO 4046: Parts 1 to 5 and the following apply.

**3.1 machine finished Kraft paper or board**

paper or board treated mechanically on the paper board machine to improve the smoothness and uniformity of appearance on both sides.

**3.2 Kraft paper**

Machine-finished or paper and board, of which not less than 80% by weight of the total fibre content consists of wood fibres obtained by the chemical sulphate or soda processes.

**4. Requirements**

**4.1. General requirements .**

The fibre used shall be atleast 80% virgin wood fibre pulp and shall be machine finished Kraft paper and free from visible specks, creases, cuts holes and other paper defects.

**4.2 Specific requirements**

Machine finished Kraft paper for packaging of dry foods shall comply with the specific requirements given in Table 1 when tested in accordance with the test methods specified therein.

**Table 1 — Physical requirements for machine finished Kraft paper for packaging of dry foods.**

|  |  |  |  |
| --- | --- | --- | --- |
| **S/N** | **Characteristic** | **Requirement** | **Test method** |
|  | Grammage, g/m2, min., ± 5 % |  | 60 | 70 | 80 | 90 | 100 | 110 | 120 | KS ISO 536 |
|  | Moisture content, %, range | 6.0 - 8.5 |  | KS ISO 287 |
|  | Tensile strength, kN/m, min. | MD |  | 5 | 5.9 | 6.8 | 7.6 | 8.5 | 9.3 | 10.2 | KS ISO 1924-3 |
| CD |  | 2.4 | 2.9 | 3.4 | 3.8 | 4.2 | 4.6 | 5.1 |
|  | Stretch, %, min. | MD |  | 1.5 | 1.8 | 1.8 | 2 | 2 | 2.1 | 2.1 | KS ISO 1924-3 |
| CD | 5 |
|  | Burst Strength, KPa, min. |  | 210 | 245 | 280 | 315 | 350 | 385 | 420 | ISO 2758 |
|  | Burst Index,KPa.m2/g, min. |  | 3.5 | KS ISO 2758 |
|  | Tear strength, mN, min. | MD |  | 375 | 450 | 525 | 600 | 675 | 750 | 825 | KS ISO 1924-3 |
| CD |  | 435 | 525 | 600 | 675 | 750 | 825 | 900 |
|  | TEA, j/m2, min. | MD |  | 66 | 77 | 88 | 99 | 110 | 121 | 132 | KS ISO 1924-3 |
| CD |  | 96 | 112 | 128 | 144 | 160 | 176 | 192 |
|  | TEA index, j/g, min. | MD |  | 1.1 | KS ISO 1924-3 |
| CD |  | 1.6 |
|  | pH | 4 - 8.5 | KS ISO 6588-1 |
|  | Cobb (60 s), g/m2 max. | 35 | KS ISO 5637 |

**4.2.2 Limits for heavy metals and organic contaminants**

Machine finished Kraft paper for packaging of dry foods shall comply with the limits for heavy metals and organic contaminants given in Table 2 when tested in accordance with the test methods specified therein.

**Table 2 — Limits for heavy metals and organic contaminants for machine finished Kraft paper for packaging of dry foods**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S/N** | **Contaminant** | **Paper and board intended to come in contact with food****(mg/kg of paper/board)** | **Paper for filtration****(mg/kg of paper/board)** | **Test method** |
|  | Cadmium (Cd2+), max. | 2.0 | 2.0 | KS EAS 880 |
|  | Chromium (Cr6+), max. | 2.0 | 2.0 |
|  | Lead (Pb2+), max. | 3.0 | 3.0 |
|  | Mercury (Hg2+), max. | 2.0 | 2.0 |
|  | Pentachlorophenol (PCP), max. | 0.15 | 0.15 |
|  | Polychlorinated biphenyl, max. | 2.00 | 2.00 |
|  | Formaldehyde | <10 | KS EAS 933 |
|  | Dioxins | <1 x 10-6 | KS ISO 13914 |

**4.2.3 Microbiological requirements.**

Machine finished Kraft paper for packaging of dry foods shall comply with the microbial requirements given in Table 3 when tested in accordance with the test methods specified therein.

**Table 3 — Microbiological requirements for machine finished Kraft paper for packaging of dry foods.**

|  |  |  |  |
| --- | --- | --- | --- |
| **S/N** | **Characteristic** | **Limit** | **Test method** |
|  | Total viable count, cfu/g, max. | (10)3 | KS ISO 8784-1 |

# 5 Packaging

# Machined finished Kraft paper for packaging of dry foods shall be packed in suitable materials that prevents it from damage, contamination during handling, storage and transportation.

# 6 Labelling

# 6.1 Bulk package

# The bulk package of machine finished Kraft paper for packaging of dry foods shall be legibly and indelibly marked with the following information:

# manufacturer’s name, address and/or registered trade mark;

# description of goods as “Machine finished Kraft paper”

# dimensions.

# grammage.

# batch number or code.

# instructions for correct use.

# instructions for storage and disposal; and

# country of origin.

# 6.2 Individual machine finished Kraft paper

# The machine finished Kraft paper for packaging of dry foods shall be legibly and indelibly marked with the following information:

# manufacturer’s name, address and /or registered trade mark;

# batch number or code; and

# instructions for correct use, storage and disposal.

# 7 Sampling

# Sampling of machined finished Kraft paper for packaging of dry foods shall be done in accordance to ISO 186.

Bibliography

[1] KS 2892:2021 *Machine finished Kraft paper for packaging of dry foods ― Specification*