Kraft liner ― Specification

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In order to keep abreast of progress in industry, Kenya Standards shall be regularly reviewed. Suggestions for improvements to published standards, addressed to the Managing Director, Kenya Bureau of Standards, are welcome.

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Foreword

This Kenya Standard was prepared by the Paper and Paper Products 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 Third Edition cancels and replaces the Second Edition (KS 921:2018) 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 and test methods for kraft liner meant for corrugated board boxes used for packaging.

2 Normative references

The following referenced documents are indispensable for the application of this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies:

ISO 2759, *Board — Determination of bursting strength.*

ISO 5629, *Paper and board — Determination of bending stiffness — Resonance method.*

ISO 12192, *Paper and board — Determination of compressive strength — Ring crush method.*

KS ISO 187, *Paper, board and pulps — Standard atmosphere for conditioning and testing and procedure for monitoring the atmosphere and conditioning of samples.*

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

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

ISO 3689, *Paper and board — Determination of bursting strength after immersion in water*

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

*ISO 535, Paper and board — Determination of water absorptiveness — Cobb method.*

ISO 534, *Paper and board — Determination of thickness, density and specific volume*

ISO 9895, *Paper and board — Compressive strength — Short-span test*

ISO 5636, *Paper and board — Determination of air permeance (medium range)*

*Part 4: Sheffield method*.

ISO 8791, *Paper and board — Determination of roughness/smoothness (air leak methods)*

*Part 1: General method.*

# 3. Terms and definitions

# For the purposes of this standard, the definitions given in KS ISO 4046-3 and the following shall apply:

# 3.1 liner

# paper used on either or both sides of the corrugating medium in the manufacture of corrugated boards

# 3.2 Kraft liner.

# Machine finished or machine glazed 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, in rolls, weighing more than 115 g/m2

# 4. Requirements.

# 4.1 General Requirements

# 4.1.1 Finish

# The paper shall be machine glazed (MG) or machine finished (MF). It shall be of uniform formation, thickness and substance, and shall be evenly finished, free from conspicuous specks, holes and other blemishes.

# 4.1.2 Size

# The size of the reel shall be as agreed between the purchaser and the supplier. The permissible tolerance shall be ± 0.5 mm.

# 4.1.3 Joints

# There shall not be more than one joint in a reel. All joints shall be joined properly using paper gum tape and clearly marked.

# 4.2 Specific requirements

The Kraft liner shall comply with the specific requirements given in Table 1, when tested in accordance with the test methods prescribed therein.

 **Table 1 — Specific requirements for kraft liner**

|  |  |  |  |
| --- | --- | --- | --- |
| **SL No** | **Characteristic** | **Requirement** | **Test method** |
| i) | Grammage g/m2 | 115 | 125 | 135 | 150 | 175 | 225 | 300 | 400 |  ISO 536 |
| ii) | Moisture content as received, % by mass | 6-9 % | ISO 287 |
| iii) | Cobb-60TOP one minute, g, max. | 35gsm | ISO 535 |
| iv) | Thickness (mm) | 0.15 | 0.17 | 0.185 | 0.205 | 0.23 | 0.305 | 0.42 | 0.56 |  ISO 534 |
| v) | SCTCD (KN/m) (minimum) | 2.4 | 2.50 | 2.70 | 3.0 | 3.5 | 4.4 | 6.0 | 6.9 | ISO 9895 |
| vi) | Bursting strength (Kpa) (minimum) | 460 | 500 | 540 | 600 | 700 | 900 | 1200 | 1600 | ISO 3689, ISO 2758, ISO 2759 |
| vii) | Burst factor (bursting\*10.2gsm) (minimum) | 4  | ISO 3689, ISO 2758, ISO 2759 |
| viii) | Porosity, max | 150 | ISO 5636 |
| ix) | Roughness Bendsten TS (ml/min) |  | 560 | 600 | 650 | 700 | 800 | 980 |  | ISO 8791 |
| x | RCT (KN/m) | 1.02 | 1.09 | 1.41 | 1.51 | 1.90 | 2.62 | 3.26 | 5.61 |  |

# 5 Packaging

# Kraft liner paper shall be supplied in reels on a one-piece core of 76 mm or 100 mm inside diameter and in length corresponding to the width of the paper.

# Labelling

# Each reel shall be legibly and indelibly labelled with the following information:

# Name and address of the manufacturer or his registered trademark.

# Width of the reel.

# Mass in kilograms of the reel.

# Date of manufacture, lot number; and

# Description and grammage of the paper.

Bibliography

[1] KS 921:2018 *Kraft liner ― Specification*