भारतीय मानक

Indian Standard

IS 2991 : 2024

वैक्सड कागज़ के लिए आधार कागज़ — विशिष्टि

(दूसरा पुनरीक्षण)

Base Paper for Waxed Paper — Specification

(Second Revision)

ICS 85.080

भारतीय मानक ब्यूरो
BUREAU OF INDIAN STANDARDS
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October 2024 **Price Group 5**

Paper Based Packaging Materials Sectional Committee, CHD 16

FOREWORD

This Indian Standard (Second Revision) was adopted by the Bureau of Indian Standards after the draft finalized by the Paper Based Packaging Materials Sectional Committee had been approved by the Chemical Division Council.

This standard was first published in 1965 and revised in 1988. In first revision, the requirement of furnish was deleted and the value of *p*H was fixed at minimum 6. An alternative method for wax absorptiveness for routine testing was also incorporated.

With the experience gained, the committee has decided to update the standard. In this revision, the following modifications have been incorporated:

a) The references clause has been updated to incorporate relevant test methods;

b) Requirement for *p*H has been modified;

c) Referred standards for the test methods have been updated, as the IS 1060 (Part 1) has been revised and the test methods have been split in various parts and sections covering the different tests; and

d) All amendments issued to the last version of the standard have been amalgamated and test methods have been updated.

A scheme for labelling environment friendly products to be known as Eco-Mark was introduced in the standard at the instance of the Ministry of Environment, Forests and Climate Change (MoEF&CC). The Eco-Mark is administered by the Bureau of Indian Standards (BIS).

This standard contains **6.1.1** which call for agreement between the purchaser and the supplier.

The composition of Committee responsible for formulation of this standard is given in Annex C.

For the purpose of deciding whether a particular requirement of this 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 IS 2 : 2022 ‘Rules for rounding off numerical values (*second revision*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

BASE PAPER FOR WAXED PAPER — SPECIFICATION

(Second Revision)

1 SCOPE

1.1 This standard prescribes the requirements, the methods of sampling and test for base paper for waxed paper.

1.1.1 This standard does not apply to specialized paper for confectionery and food wrapping purposes.

2 REFERENCES

The standards listed in Annex A contain provisions, which through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent edition of these standards.

3 TERMINOLOGY

For the purpose of this standard, the definitions given in IS 4661 (Part 5) shall apply.

4 GRADES

4.1 Base paper for waxed paper shall be of the following two grades:

a) *Grade* 1; and

b) *Grade* 2.

5 REQUIREMENTS

5.1 The base paper for waxed paper shall comply with the requirements given in Table 1 when tested as prescribed in col (5) of the Table 1.

Table 1 Requirements for Base Paper for Waxed Paper

(*Clauses* 5.1 *and* 7.2)

Sl No.	Characteristic	Requirements		Methods of Tests, Ref to
		Grade 1	*Grade* 2	
(1)	(2)	(3)		(4)
i)	Nominal grammage, g/m^2	30 to 60	17 to 26	IS 1060 (Part 5/Sec 5)
ii)	Burst index, kPa·m^2/g, *Min*	2.0	2.0	IS 1060 (Part 6/Sec 2)
iii)	Tear index, mN·m^2/g, *Min*			IS 1060 (Part 6/sec 1)
	a) MD	8.1	5.5	
	b) CD	9.0	6.9	
iv)	*p*H	5.0 to 7.0	5.0 to 7.0	IS 1060 (Part 4/Sec 7)
v)	Wax absorptiveness, percent by mass, *Min*	30	14	Annex B

5.2 The fillers added in base paper for waxed paper shall be such that they do not produce discoloration on ageing.

5.3 Additional Requirements for Eco-Mark

5.3.1 *General Requirements*

The product shall conform to the requirements for quality and performance prescribed under 5.1 to 5.2.

5.3.1.2 The manufacturer shall produce to BIS, the environmental consent clearance from the concerned State Pollution Control Board as per the provisions of *Water* (*Prevention and Control of Pollution*) *Act*, 1974 and *Air* (*Prevention and Control of Pollution*) *Act*, 1981 along with the authorization, if required under the *Environment* (*Protection*), *Act*, 1986 and the Rules made thereunder, while applying for Eco-Mark.

5.3.2 *Specific Requirements*

5.3.2.1 The material shall be of the following two types depending on the raw material used in the manufacture:

a) Manufactured from pulp containing not less than 80 percent by mass of pulp made from materials other than bamboo, hardwood, softwood and reed; and

b) Manufactured from pulp made from 100 percent waste paper or agricultural/ industrial waste.

6 PACKING AND MARKING

6.1 Packing

6.1.1 The base paper shall be packed securely and suitably as agreed to between the purchaser and the supplier.

6.1.2 For Eco-Mark, base paper for waxed paper shall be packed in such packages which shall recyclable/reusable or biodegradable**.**

6.2 Marking

6.2.1 Each package shall be marked with the following information:

a) Description and grade of the material;

b) Mass of package;

c) Batch number or lot number;

d) Month and year of manufacture; and

e) Manufacturer's name and trade-mark, if any.

6.2.2 *BIS Certification Marking*

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standard Act*, 2016 and the Rules and Regulations framed there under, and the products may be marked with the Standard Mark.

6.2.3 *Additional Requirements for Eco-Mark*

6.2.3.1 Each sack may display in brief the criteria for which the product has been labelled as environment friendly.

6.2.3.2 It shall be suitably marked on each sack that Eco-Mark label is applicable only to the packaging material/package if content is not separately covered under the Eco-Mark scheme.

NOTE — It may be stated that the Eco-Mark is applicable to the product or packaging material or both.

7 SAMPLING AND CRITERIA FOR CONFORMITY

7.1 Sampling

The paper shall be sampled in accordance with IS 1060 (Part 1).

7.2 Tests

From each of the packets selected from the lot (*see* 7.1), one sheet shall be taken out at random. These sheets shall constitute the sample. One test piece shall be cut from each sheet selected for each-of the characteristics mentioned in Table 1 and tested. A sheet not meeting the requirements for any one or more characteristics shall be considered as defective.

7.3 Criteria for Conformity

A lot shall be declared as conforming to all the requirements of this specification if the number of defective sheets found does not exceed the acceptance number. This acceptance number shall depend upon the size of the sample and shall be zero if the size is less than 13 and one if it is greater than or equal to 13.

ANNEX A

(*Clause* 2)

LIST OF REFERRED STANDARDS

IS No.	*Title*
IS 1060	Methods of sampling and test for paper and allied Products:
(Part 1) : 2022	Test methods for general purpose (*second revision*)
(Part 3) : 1969	Methods of sampling and test for paper and allied products, Part 3
(Part 4/Sec 7) : 2024/ISO 6588 - 2 : 2021	Methods of test for paper, board and pulp, Section 7 Determination of *p*H of aqueous extracts — Hot extraction method (*first revision*)
(Part 5)	Methods of test for paper and board,
(Sec 5) : 2021/ ISO 536 : 2019	Determination of grammage (*first revision*)
(Part 6)	Methods of Test for Paper,
(Sec 1) : 2014/ ISO 1974 : 2012	Determination of tearing resistance — Elmendorf method
(Sec 2) : 2024/ ISO 2758 : 2014	Determination of bursting strength of paper (*first revision*)
IS 4661 (Part 4) : 2022/ISO 4046-5 : 2016	Paper, board, pulps and related terms — Vocabulary: Part 4 Properties of pulp, paper and board (*third revision*)

ANNEX B

[*Table* 1, *Sl No.* (v)]

METHOD FOR DETERMINATION OF WAX ABSORPTIVENESS

B-1 GENERAL

Two methods are prescribed for the determination of wax absorptiveness. The method prescribed in IS 1060 (Part 3) will be the referee method and used in case of dispute. Method given below will be a routine method for quick results.

B-2 METHOD

B-2.1 Apparatus

B-2.1.1 *Analytical Balance* — sensitive to 0.01 g

B-2.1.2 *Oven*

Capable of maintaining a temperature of 105 °C ± 2 °C throughout the interior.

B-2.1.3 *Waxbath*

A rectangular metal open container measuring about 120 mm × 150 mm and 60 mm deep for keeping paraffin wax with melting point 54.4 °C to 55 °C.

B-2.1.4 *Hotplate*

B-2.2 Procedure

Cut representative samples of paper 74 mm by 105 mm and weigh each sample to nearest 0.01 g. Dip the samples into the paraffin waxbath maintained at 70 °C ± 2 °C and let them remain there for 10 min. Remove the samples and let them cool. Hang these waxed papers in oven, maintained at 103 °C ± 2 ºC, for 60 min with short axis of the sheets parallel to the bottom of oven. Remove the sheets from the oven and allow them to cool to room temperature for about 15 min. Scrap off the excess deposited wax from the lower edge of the papers with the help of blade. Weigh them again.

B-2.3 Calculation

Wax absorptiveness, percent by mass

$$= \frac{(A - B) \times 100}{B}$$

where

A = mass, in g, of the test specimen after wax absorption; and

B = mass, in g, of the test specimen before wax absorption.

B-2.4 An average of five repetitions is to be reported

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ANNEX C

(*Foreword*)

COMMITTEE COMPOSITION

Paper Based Packaging Materials Sectional Committee, CHD 16

Organization	*Representative(s)*
Indian Institute of Packaging, New Delhi	PROF (DR) TANWEER ALAM **(*Chairperson*)**
B&A Packaging India Limited, Kolkata	SHRI AMAL KUMAR MOHANTY SHRI TAPAN KUMAR CHAND (*Alternate* I) SHRI PANKAJ KUMAR (*Alternate* II)
Central Pulp and Paper Research Institute, Saharanpur	DR SANJAY TYAGI SHRI ALOK KUMAR GOEL (*Alternate*)
Century Pulp and Paper Mills, Nainital	SHRI SANJAY KUMAR YADAV SHRI HEM CHANDRA JOSHI (*Alternate*)
Consumer Guidance Society of India, Mumbai	DR SITARAM DIXIT DR M. S. KAMATH (*Alternate*)
Department for Promotion of Industry and Internal Trade, New Delhi	SHRI RAJESH RAWAT
Dr Reddy's Laboratory, Hyderabad	SHRI AVINASH KUMAR TALWAR SHRI VINAY KUMAR SINGH (*Alternate*)
Federation of Corrugated Box Manufacturers of India, Mumbai	SHRI K. P. SINGH SHRI ALOK KUMAR GUPTA (*Alternate*)
Federation of Paper Converters of India, New Delhi	SHRI MUKESH GUPTA SHRI ABHAY KUMAR SINGH (*Alternate*)
Indian Agro and Recycled Paper Mills Association, New Delhi	DR BIPIN PRAKASH THAPLIYAL DR ANIL NAITHANI (*Alternate*)
Indian Institute of Packaging, New Delhi	SHRI SUBODH K. JUIKAR SHRI TUSHAR BANDYOPADHYAY (*Alternate* I) SHRI SOURABH GHOSH (*Alternate* II)
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J K Paper Limited, New Delhi	SHRI UMAKANT PATIL SHRI SAMEER MOHAPATRA (*Alternate*)

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Package Design Research and Test Lab, Lucknow	SHRI L. M. GUPTA SHRI MAYANK GUPTA (*Alternate*)
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Uflex Limited, Noida	SHRI ASHVANI SHARMA SHRI RAKESH SHARMA (*Alternate*)
BIS Directorate General	SHRI AJAY KUMAR LAL, SCIENTIST 'F'/SENIOR DIRECTOR AND HEAD (CHEMICAL) [REPRESENTING DIRECTOR GENERAL (*Ex-officio*)]

Member Secretary
SHRI VIRENDRA SINGH
SCIENTIST 'E'/DIRECTOR
(CHEMICAL), BIS

Bureau of Indian Standards

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