
लुगदी बोर्ड — विशिष्टि
(दूसरा पुनरीक्षण)

Pulp Board — Specification
(*Second Revision*)

ICS 85.060; 85.080

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भारतीय मानक ब्यूरो
BUREAU OF INDIAN STANDARDS
मानक भवन, 9 बहादुर शाह ज़फर मार्ग, नई दिल्ली - 110002
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI - 110002
www.bis.gov.in www.standardsbis.in

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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 formulated to define the quality of pulp boards and to ensure the supply of proper quality of such boards to the consumer. These boards are made from 100 percent chemical pulp and are used as postcards, publicity cards, chart papers, etc. Pulp board as covered in this standard shall be of two grades, namely, Grade G for general purposes and Grade S for special purposes.

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 was first published in 1968 and revised in 1986. During the first revision, the requirement of burst factor was replaced by burst index. Further, the requirement of pH and moisture content were also introduced for Grade G. The Committee has decided to revise this standard to align with latest technological advancement.

In this second revision, the following modification have been made:

- a) The references clause has been added;
- b) Requirements of brightness and one-minute cobb have been included;
- 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.

This standard contains [5.2](#), [5.3](#), [5.4](#) and [6.1.1](#) which call for agreement between the purchaser and the supplier.

The composition of the Committee responsible for the formulation of this standard is given in [Annex B](#).

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
PULP BOARD — SPECIFICATION
(Second Revision)

1 SCOPE

This standard specifies requirements, methods of sampling and test for pulp board.

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

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

3.1.1 Pulp Board

Board manufactured in one layer or by bringing two or more than two plies of the same furnish into a single structure in the wet state without the use of an adhesive.

4 GRADES

The pulp board shall be of the following two grades:

- a) *Grade G* — for general purposes; and
- b) *Grade S* — for special purposes.

5 REQUIREMENTS**5.1 General**

The board shall be uniform in thickness; free from holes, hard spots and lumps; shall be flat and, dimensionally stable. The printing surface shall be smooth, of even finish, formation, absorbency and colour. Both sides of the board shall be clean and free from loosely bound fibres. The boards may be white or coloured.

5.2 Thickness

The thickness of the pulp board shall be as agreed to between the purchaser and the supplier. When tested in accordance with IS 1060 (Part 5/Sec 3), the

following tolerances shall be allowed on the nominal thickness:

<i>SI No.</i>	<i>Nominal Thickness</i>	<i>Tolerance</i>
i)	500 micrometres and below	± 20 micrometres
ii)	501 micrometres and above	± 25 micrometres

5.3 Grammage (Substance)

The nominal grammage of the pulp board shall be as agreed to between the purchaser and the supplier. However, when tested as per IS 1060 (Part 5/Sec 5), no single test result shall vary by more than ± 6 percent from nominal grammage. Further, the mean of 10 test results shall not vary from nominal grammage by more than ± 4 percent.

5.4 Size

The sizes of the pulp board shall be one of the sizes as in IS 1064 or as agreed to between the purchaser and the supplier. The tolerance on the size shall be as in IS 1064.

5.5 The brightness for whiter paper board shall be 75 minimum when tested as per IS 1060 (Part 4/Sec 13).

5.6 The board shall also comply with the requirements given in [Table 1](#) when tested in accordance with the method referred in col (5) of [Table 1](#).

5.7 Additional Requirements for ECO Mark**5.7.1 General Requirements**

5.7.1.1 The product shall conform to the requirements for quality and performance prescribed under [5.1](#) to [5.7](#).

5.7.1.2 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.

5.7.2 Specific Requirements

5.7.2.1 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 60 percent by mass of pulp made from materials other than bamboo, hard woods, soft woods and reed; and
- b) Manufactured from pulp made from 100 percent waste paper.

6 PACKING AND MARKING

6.1 Packing

6.1.1 Fifty or hundred boards shall be wrapped in paper to form a packet. The packing of pulp board shall be done so as to ensure that the paper is not damaged due to handling and transportation and shall be as agreed to between the purchaser and the supplier.

6.1.2 For ECO Mark, the product shall be packed in such packages which shall be recyclable/reusable or biodegradable.

6.2 Marking

Each package and reel shall be marked with the following particulars:

- a) Description and grade of the material;
- b) Thickness in micrometres and substance in g/m²;
- c) Size and number of sheets, in the case of package and length and width of reel, in the case of reels;
- d) Mass, in kg, of the package including wrapping paper, in the case of package; and mass, in kg, of the reel including the mass of the core and plugs in the case of reels;
- e) Lot number;
- f) Date of manufacture; and

- g) Manufacturer's name or recognized trade-mark, if any.

6.2.1 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 Standards Act, 2016* and the Rules and Regulations framed there under, and the products may be marked with the Standard Mark.

6.2.2 For ECO Mark, following additional information may also be marked on the container/package.

'The criteria for which the product has been labelled with ECO Mark'.

7 SAMPLING AND CRITERIA OF CONFORMITY

7.1 Sampling

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

7.2 Number of 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. The sheets selected shall first be tested for general requirements given in [5.1](#). 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 1 if it is greater than or equal to 13.

Table 1 Requirements for Pulp Board

(Clause 5.6 and 7.2)

SI No.	Characteristic	Requirements		Methods of Tests, Ref to
		Grade G	Grade S	
(1)	(2)	(3)	(4)	(5)
i)	Burst index, kPa.m ² /g, <i>Min</i>	1.00	1.00	IS 1060 (Part 7/Sec1)
ii)	Ash, percent, <i>Max</i>	15	15	IS 1060 (Part 4/ Sec 2)
iii)	pH	5.5 to 7.5	5.5 to 7.5	IS 1060 (Part 4/Sec 7)
iv)	Moisture content, percent by mass, <i>Max</i>	6	6	IS 1060 (Part 5/Sec 2)
v)	Lead (as Pb), percent by mass, <i>Max</i>	—	0.2	IS 1060 (Part 2)
vi)	Chlorides (as NaCl), percent by mass, <i>Max</i>	—	0.1	IS 1060 (Part 4/Sec 8)
vii)	Sulphates (as Na ₂ SO ₄), percent by mass, <i>Max</i>	—	0.25	IS 1060 (Part 4/Sec 9)
viii)	Fatty and or similar acids, percent by mass, <i>Max</i>	—	0.25	IS 1060 (Part 2)
ix)	Ether solubles, percent by mass, <i>Max</i>	—	1.0	IS 1060 (Part 2)
x)	Cobb (60 min), g/m ²			IS 1060 (Part 5/Sec 4)
	a) Top	30.0 to 40.0	30.0 to 40.0	
	b) Back	40.0 to 50.0	40.0 to 50.0	

ANNEX A

(Clause 2)

LIST OF REFERRED STANDARDS

<i>IS No.</i>	<i>Title</i>	<i>IS No.</i>	<i>Title</i>
IS 1060	Methods of sampling and test for paper and allied products:	(Part 5)	Methods of test for paper and board,
(Part 1) : 2022	Test methods for general purpose (<i>second revision</i>)	(Sec 2) : 2021/ ISO 287 : 2017	Determination of moisture content of a lot — Oven-drying method (<i>first revision</i>)
(Part 2) : 1960	Methods of sampling and test for paper and allied products: Part 2	(Sec 3) : 2014/ ISO 534 : 2011	Determination of thickness, density and specific volume
(Part 4)	Methods of test for paper, board and pulps,	(Sec 4) : 2014/ ISO 535 : 1991	Determination of water absorptiveness — Cobb method
(Sec 2) : 2018/ ISO 1762 : 2015	Determination of residue (ash) on ignition at 525 °C	(Sec 5) : 2021/ ISO 536 : 2019	Determination grammage of (<i>first revision</i>)
(Sec 7) : 2024/ ISO 6588-2 : 2021	Determination of pH of aqueous extracts — Hot extraction method (<i>first revision</i>)	(Part 7/Sec 1) : 2014/ISO 2759 : 2001	Methods of test for board, Sec 1 Determination of bursting strength of board
(Sec 8) : 2024/ ISO 9197 : 2016	Determination of water-soluble chlorides (<i>first revision</i>)	IS 1064 : 1980	Specification for paper sizes (<i>second revision</i>)
(Sec 9) : 2024/ ISO 9198 : 2020	Determination of water-soluble sulfates (<i>first revision</i>)	IS 4661 (Part 5) : 2022/ISO 4046 -5 : 2016	Paper, board, pulps and related terms — Vocabulary: Part 5 Properties of pulp, paper and board (<i>third revision</i>)
(Sec 13) : 2020/ ISO 2470-1 : 2016	Measurement of diffuse blue reflectance factor — Indoor daylight conditions (ISO brightness) (<i>first revision</i>)		

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ANNEX B

(Foreword)

COMMITTEE COMPOSITION

Paper Based Packaging Materials Sectional Committee, CHD 16

<i>Organization</i>	<i>Representative(s)</i>
Indian Institute of Packaging, New Delhi	PROF (DR) TANWEER ALAM (<i>Chairperson</i>)
B&A Packaging India Limited, Kolkata	SHRI AMAL KUMAR MOHANTY SHRI TAPAN KUMAR CHAND (<i>Alternate I</i>) SHRI PANKAJ KUMAR (<i>Alternate II</i>)
Central Pulp and Paper Research Institute, Saharanpur	DR M. K. GUPTA DR SANJAY TYAGI (<i>Alternate</i>)
Century Pulp and Paper Mills, Nainital	SHRI SANJAY KUMAR YADAV SHRI HEM CHANDRA JOSHI (<i>Alternate</i>)
Consumer Guidance Society of India, Mumbai	DR SITARAM DIXIT DR M. S. KAMATH (<i>Alternate</i>)
Dr. Reddy's Laboratory, Hyderabad	SHRI AVINASH KUMAR TALWAR SHRI VINAY KUMAR SINGH (<i>Alternate</i>)
Federation of Corrugated Box Manufacturers of India, Mumbai	SHRI K. P. SINGH SHRI ALOK KUMAR GUPTA (<i>Alternate</i>)
Federation of Paper Converters of India, New Delhi	SHRI MUKESH GUPTA SHRI ABHAY KUMAR SINGH (<i>Alternate</i>)
ITC Life Sciences and Technology Centre, Bengaluru	SHRI AJITH KUMAR DR KAMAL KUMAR TYAGI (<i>Alternate</i>)
ITC Limited, Paperboards and Specialty Papers Division, Bhadrachalam	SHRI P. N. SRIDHARR SHRI MOHAMMED GOUSE (<i>Alternate</i>)
Indian Agro and Recycled Paper Mills Association, New Delhi	DR BIPIN PRAKASH THAPLIYAI DR ANIL NAITHANI (<i>Alternate</i>)
Indian Institute of Packaging, New Delhi	SHRI SUBODH K. JUIKAR SHRI TUSHAR BANDYOPADHYAY (<i>Alternate I</i>) SHRI SOURABH GHOSH (<i>Alternate II</i>)
Indian Institute of Technology, Roorkee	DR DHARAM DUTT DR VIBHORE KUMAR RASTOGI (<i>Alternate I</i>) DR KIRTIRAJ K. GAIKWAD (<i>Alternate II</i>)
Indian Paper Manufacturers Association, New Delhi	SHRI BISWARANJAN DASH SHRI ROHIT PANDIT (<i>Alternate</i>)
J K Paper Limited, New Delhi	SHRI UMAKANT PATIL SHRI SAMEER MOHAPATRA (<i>Alternate</i>)
Nestle India Limited, Gurugram	SHRI DEEPAK SINGH SHRI AJAY RAJVANSHI (<i>Alternate</i>)

<i>Organization</i>	<i>Representative(s)</i>
Package Design Research and Test Lab, Lucknow	SHRI L. M. GUPTA SHRI MAYANK GUPTA (<i>Alternate</i>)
Parksons Packaging Limited, Mumbai	SHRI SRIKANTH RAMAMURTHY SHRI DEEPAK SINGH (<i>Alternate I</i>) SHRI RAVINDRA PATIL (<i>Alternate II</i>)
Prem Industries, New Delhi	SHRI ALOK GOEL SHRI H. P. SINGH (<i>Alternate I</i>) SHRI RAGHAV GOEL (<i>Alternate II</i>)
Rail India Technical and Economic Service, Gurugram	SHRIMATI MALINI SAHA
Tetra Pak India Private Limited, Gurugram	SHRI SHARAD SHARMA SHRI BOBBY JOHNSON (<i>Alternate</i>)
Uflex Limited, Noida	SHRI ASHVANI SHARMA SHRI RAKESH SHARMA (<i>Alternate</i>)
BIS Directorate General	SHRI AJAY KUMAR LAL, SCIENTIST 'F'/SENIOR DIRECTOR AND HEAD (CHEMICAL) [REPRESENTING DIRECTOR GENERAL (<i>Ex-officio</i>)]

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

Bureau of Indian Standards

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BUREAU OF INDIAN STANDARDS

Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002

Telephones: 2323 0131, 2323 3375, 2323 9402

Website: www.bis.gov.in

Regional Offices:

	Telephones
Central : 601/A, Konnectus Tower -1, 6 th Floor, DMRC Building, Bhavbhuti Marg, New Delhi 110002	{ 2323 7617
Eastern : 8 th Floor, Plot No 7/7 & 7/8, CP Block, Sector V, Salt Lake, Kolkata, West Bengal 700091	{ 2367 0012 2320 9474
Northern : Plot No. 4-A, Sector 27-B, Madhya Marg, Chandigarh 160019	{ 265 9930
Southern : C.I.T. Campus, IV Cross Road, Taramani, Chennai 600113	{ 2254 1442 2254 1216
Western : Manakalya, 5 th Floor/MTNL CETTM, Technology Street, Hiranandani Gardens, Powai Mumbai 400076	{ 25700030 25702715

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