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( Reaffirmed 1985 )

*Indian Standard*  
SPECIFICATION FOR BITUMEN  
IMPREGNATED PAPER  
( *First Revision* )

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**BUREAU OF INDIAN STANDARDS**  
MANAK BHAVAN, 9 BHADUR SHAH ZAFAR MARG  
NEW DELHI 110002

*Indian Standard*  
**SPECIFICATION FOR BITUMEN  
 IMPREGNATED PAPER**  
*( First Revision )*

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**Indian Standard**  
**SPECIFICATION FOR BITUMEN**  
**IMPREGNATED PAPER**  
**( First Revision )**

**0. FOREWORD**

**0.1** This Indian Standard ( First Revision ) was adopted by the Indian Standards Institution on 2 September 1977, after the draft finalized by the Paper and Pulp Based Packaging Materials Sectional Committee had been approved by the Chemical Division Council.

**0.2** In this revision the requirement for ash has been deleted while for Cobb test has been added. On the basis of investigations done, the requirement for burst factor has been upgraded. Grade S, which was mainly meant for usage by the Ministry of Defence, has been deleted as it was found that the Ministry no longer followed this standard in their purchases. The requirements of the Defence Ministry are under consideration of the Sectional Committee and if considered possible would be included in the standard later on.

**0.3** This standard contains clauses **3.3, 3.4, 3.5.1, 3.5.3** and **4.1** which call for agreement between the purchaser and the supplier and which permit the purchaser to use his option for selection to suit his requirements.

**0.4** 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 : 2-1960\*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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**1. SCOPE**

**1.1** This standard prescribes the requirements and the methods of sampling and test for bitumen impregnated paper intended for use as a packaging material.

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\*Rules for rounding off numerical values ( revised ).

## 2. TERMINOLOGY

2.1 For the purpose of this standard, the definitions given in IS : 4261-1967\* shall apply.

## 3. REQUIREMENTS

3.1 **General Requirements** — The bitumen impregnated paper shall be a paper impregnated throughout with bitumen or pitch incorporated at the stock preparation stage in the form of an emulsion. The paper shall be of uniform formation and the surface may be glazed, unglazed or calendered as required by the purchaser. The paper shall be free from holes, lumps and other serious blemishes.

3.2 The bitumen impregnated paper shall also comply with the requirements given in Table 1 when tested according to the relevant test methods given in col 4, 5 and 6 of the table.

**TABLE 1 REQUIREMENTS FOR BITUMEN IMPREGNATED PAPER**

Sl. No.	CHARACTERISTIC	REQUIREMENT	METHOD OF TEST, REF TO CL NO. IN		
			IS : 1060 ( Part I )- 1966*	IS : 1060 ( Part II )- 1960†	IS : 1060 ( Part III )- 1969‡
(1)	(2)	(3)	(4)	(5)	(6)
i)	Burst factor, <i>Min</i> :		12.5	—	—
	Dry	12			
	Wet	6			
ii)	Moisture ( as received ), percent by mass, <i>Max</i>	10	9	—	—
iii)	pH	5.5 to 8.0	10	—	—
iv)	Thirty minutes Cobb test, g/m <sup>2</sup> , <i>Max</i>	50	13.2.2	—	—
v)	Benzene soluble matter, percent by mass, <i>Min</i>	12	—	21	—
vi)	Exudation test	To pass the test	—	10	—
vii)	Water penetration test	To pass the test	—	—	10

\*Methods of sampling and test for paper and allied products, Part I ( revised ).

†Methods of sampling and test for paper and allied products, Part II.

‡Methods of sampling and test for paper and allied products, Part III.

\*Glossary of terms relating to paper and pulp-based packaging materials.

**3.3** The bitumen impregnated paper may be rendered mould proof by the method agreed to between the purchaser and the supplier.

**3.4 Substance and Tolerance on Substance** — The substance of bitumen impregnated paper shall be as agreed to between the purchaser and the supplier. A tolerance of  $\pm 7.5$  percent of the nominal substance shall be permitted when tested according to 6 of IS : 1060 ( Part I )-1966\*.

### **3.5 Size and Tolerance on Size**

**3.5.1** The finished paper shall be in the form of either rolls or sheets as agreed to between the purchaser and the supplier. The sizes and tolerance on sizes shall be in accordance with IS : 1064-1961† unless otherwise agreed to between the purchaser and the supplier. The paper when in roll form shall be in continuous length of 100 metres.

**3.5.2** The variation in size of paper in sheets or rolls shall not be more than 0.5 percent above or below the ordered size; where 0.5 percent is less than 3 mm, the tolerance shall be  $\pm 3$  mm and where 0.5 percent exceeds 5 mm, the tolerance shall be  $\pm 5$  mm.

**3.5.3 Thickness and Tolerance on Thickness** — The thickness of bitumen impregnated paper shall be as agreed to between the purchaser and the supplier. A tolerance of  $\pm 12.5$  percent shall be allowed on specified thickness.

## **4. PACKING AND MARKING**

**4.1** A ream of 500 sheets shall be the measure of quantity for bitumen impregnated paper in sheets. Packages shall contain 250 or 100 sheets according to the size and mass of the paper and packed as agreed to between the purchaser and the supplier.

**4.2** Bitumen impregnated paper in rolls shall be rolled on a core of 70 mm inside diameter and in length corresponding to the width of the paper, with a wooden plug at each end extending to a minimum of 75 mm into the core.

**4.3** Each package and roll shall be marked with the following information:

#### *Package*

- a) Description and substance of the paper;
- b) Contents of the package ( number of sheets );

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\*Methods of sampling and test for paper and allied products, Part I ( revised ).

†Specification for paper sizes ( revised ).

- c) Mass in kg per ream including wrapping paper;
- d) Size in millimetres;
- e) Machine direction;
- f) Lot number;
- g) Date of manufacture; and
- h) Trade-mark, if any.

*Roll*

- a) Description and substance of the paper;
- b) Length and width of the roll;
- c) Mass in kg of the roll including the mass of the core and plug;
- d) Lot number;
- e) Date of manufacture; and
- f) Trade-mark, if any.

**4.3.1** The material may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution ( Certification Marks ) Act and the Rules and Regulations made thereunder. The ISI mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

## **5. SAMPLING**

**5.1** Representative samples of packets or rolls of bitumen impregnated paper shall be selected from each lot as prescribed in **3** of IS : 1060 ( Part I )-1966\*.

### **5.2 Number of Tests**

**5.2.1** From each of the packets or rolls selected from the lot ( *see 5.1* ) one sheet shall be taken out at random. These sheets shall constitute the sample. Each one of these sheets shall first be examined for general requirements mentioned in **3.1** and one test piece shall be cut for burst

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\*Methods of sampling and test for paper and allied products, Part I ( *revised* ).

factor, exudation and water penetration test.. Tests for these characteristics shall be conducted individually on each of the sample sheets. A sheet not meeting the requirements for any one or more of these characteristics shall be considered as defective.

**5.2.2** For each of the remaining characteristics mentioned in 3, one test shall be made by taking the requisite number of sheets weighing approximately 100 g at random from as many of the selected packets ( see 5.1 ) as possible.

### **5.3 Criteria for Conformity**

**5.3.1** A lot shall be considered as conforming to the requirements for burst factor, exudation and water penetration test if the number of defective sheets does not exceed the acceptance number. This acceptance number shall depend upon the size of the sample ( see 5.1 ) 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.

**5.3.2** For other characteristics which are assessed on one-test basis, the lot shall be declared as conforming to the requirements of the specification if the sheets selected for this purpose pass the test corresponding to these characteristics.



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