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IS 14915 (2001): Filter Paper, Qualitative, Hand-Made [CHD 15: Paper and its products]



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IS 14915 : 2001
(Reaffirmed - 2012)

भारतीय मानक

फिल्टर पेपर, गुणात्मक, हस्त-निर्मित — विशिष्टि

Indian Standard

**FILTER PAPER, QUALITATIVE, HAND-MADE —
SPECIFICATION**

ICS 85.080

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

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Paper and Its Products (Excluding Packaging Materials) Sectional Committee had been approved by the Chemical Division Council.

Hand-made filter paper is being manufactured mainly in the small-scale and cottage sectors. In order to ensure consistency in the quality of hand-made filter paper, the Committee has decided to formulate this standard.

Average pore size and maximum pore size are generally needed to define a filter paper. However, this property is not being specified at present in this standard because of the: (a) non-availability of testing instrument in most of the laboratories, and (b) unless filter paper is available in the market meeting other criteria as specified in this standard, this property may not be tested and specified. Hence, incorporation of this requirement can be considered whenever the data is available either through amendment or revision.

There is no ISO standard on the subject. This standard has been prepared based on indigenous data/practices prevalent in the field in India.

The composition of the Technical Committee responsible for 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 : 1960 'Rules for rounding off numerical values (*revised*)'. 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***FILTER PAPER, QUALITATIVE, HAND-MADE —
SPECIFICATION****1 SCOPE**

This standard prescribes requirements and methods of sampling and test for hand-made qualitative filter paper for analytical purposes.

2 REFERENCES

The Indian Standards listed below 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 revisions, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below:

| <i>IS No.</i> | <i>Title</i> |
|-------------------------|---|
| 1060 (Part 1) : 1966 | Methods of sampling and test for paper and allied products, Part 1 (<i>revised</i>) |
| 1060 (Part 2) : 1960 | Methods of sampling and test for paper and allied products, Part 2 |
| 1064 : 1980 | Paper sizes (<i>second revision</i>) |

3 GRADES

The material shall be of the following three grades:

- a) *Grade 1* — Suitable for normal loading and retaining fine materials,
- b) *Grade 2* — Suitable for normal loading and retaining medium to course materials, and
- c) *Grade 3* — Suitable for heavy loading and retaining fine materials.

4 REQUIREMENTS**4.1 Description**

The hand made filter paper, quality shall be of uniform formation, evenly finished and generally free from specks and other blemishes. The filter paper shall not be covered or mixed with any additive and shall be non-reactive to the solution being filtered.

4.2 The fibrous material used shall have an alpha cellulose content not less than 95 percent by mass when tested according to the method prescribed in 15 of IS 1060 (Part 2).

4.3 Size

The hand-made qualitative filter paper shall be supplied in rectangular or circular sheet form.

4.3.1 The material in rectangular sheet form shall be of following sizes:

100 cm × 75 cm, 57 cm × 46 cm, 48 cm × 48 cm, 58 cm × 58 cm, 68 cm × 58 cm, and 61 cm × 61 cm.

4.3.2 The material in circular sheet form shall be of the following diameters:

4.25 cm, 4.7 cm, 5.0 cm, 5.5 cm, 7.0 cm, 9.0 cm, 11.0 cm, 12.5 cm, 15.0 cm, 18.5 cm, 19.0 cm, 20.5 cm and 24.0 cm.

4.3.3 The tolerance on size shall be as prescribed in 4.1 of IS 1064.

4.4 Grammage

The nominal grammage of the filter papers shall not be less than the value specified in Table 1. A tolerance of ± 7.5 percent of the nominal grammage shall be permitted on the individual test value when tested according to 6 of IS 1060 (Part 1).

4.5 Caliper

The nominal calipers of the filter papers shall not be less than the value specified in Table 1. A tolerance of ± 5 percent of the nominal caliper shall be permitted on the individual test value when tested according to 7 of IS 1060 (Part 1).

4.6 The filter papers shall comply with the requirements given in Table 1 when tested according to the methods referred under col 6 and 7 of the table.

5 PACKAGING AND MARKING

5.1 Filter paper in circular sheet form shall be packed in units of 100 sheets such that the sheets remain flat and have no possibility of getting contaminated during storage/transport.

5.2 Filter paper in rectangular sheet form shall be packed in reams of 250 or 500 sheets as agreed to between the purchaser and the supplier.

Table 1 Requirements for Filter Paper, Qualitative, Hand-Made
(Clauses 4.4, 4.5 and 4.6)

| Sl No. | Characteristic | Requirement | | | Method of Test, Ref to | | |
|--------|---|-------------|---------|---------|------------------------|------------------|-------|
| | | Grade 1 | Grade 2 | Grade 3 | Clause No. | | Annex |
| | | | | | IS 1060 (Part 1) | IS 1060 (Part 2) | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| i) | Nominal grammage, g/m ² , <i>Min</i> | 90 | 90 | 190 | 6 | — | — |
| ii) | Nominal caliper, micrometer, <i>Min</i> | 200 | 180 | 380 | 7 | — | — |
| iii) | Dry bursting strength, kPa, <i>Min</i> | 90 | 70 | 180 | 12.5 | — | — |
| iv) | Wet bursting strength, kPa, <i>Min</i> | 1.5 | 1.2 | 2.5 | — | 6 | — |
| v) | Initial filtration rate, s/100 ml | 50 ± 5% | 10 ± 5% | 90 ± 5% | — | — | A |
| vi) | pH | 6.0-8.0 | 6.0-8.0 | 6.0-8.0 | 10 | — | — |
| vii) | Ash content, percent by mass, <i>Max</i> | 0.5 | 0.5 | 0.5 | 11 | — | — |
| viii) | Brightness, percent, <i>Min</i> | 78 | 78 | 78 | — | 13 | — |

5.3 Marking

5.3.1 Each package shall be marked with the following details:

- Nominal grammage;
- Nominal caliper;
- Grade of filter paper, qualitative;
- Date of packing;
- Number of sheets in the package; and
- Indication of the source of manufacture.

5.3.2 BIS Certification Marking

The packages may also be marked with the Standard Mark.

5.3.2.1 The use of the Standard Mark is governed by the provisions of Bureau of *Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

6 SAMPLING

Representative samples of hand-made filter paper shall be drawn in accordance with 3 of IS 1060 (Part 1).

7 CRITERIA FOR CONFORMITY

The material shall meet all the requirements prescribed in 4.

ANNEX A

(Table 1)

METHOD FOR THE DETERMINATION OF INITIAL FILTRATION RATE

A-1 Filter distilled water at 27°C through the filter paper cone put into a 60° funnel of suitable size. Maintain around 3/4 level of water in the filter paper

cone by pouring distilled water continuously from a glass beaker through a glass rod. Report the time required to collect 100 ml filtrate using a stop watch.

ANNEX B**(Foreword)****COMMITTEE COMPOSITION****Paper and Its Products (Excluding Packaging Materials) Sectional Committee, CHD 15**

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