

भारतीय मानक
कागज, कम्प्यूटर — विशिष्टि
(पहला पुनरीक्षण)

Indian Standard
PAPER, COMPUTER — SPECIFICATION
(*First Revision*)

ICS 35.260.20; 85.080

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

FOREWORD

This Indian Standard (First Revision) 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.

Computer paper can also be termed as computer stationery, continuous stationery, etc. It is used as a media in the input or output in connection with computer printers or similar machines for recording, reproducing and storage of data.

This standard was originally published in 1989. In this revision, the general requirement has been deleted. Also, the requirements for tear index and one minute Cobb value have been revised. Modifications have also been made in the requirements of punched feed holes, acceptability of printing inks, packing and marking.

In this revision, a scheme for labelling environment friendly products known as ECO Mark has been introduced at the instance of the Ministry of Environment and Forest (MEF), Government of India. The ECO Mark scheme would be administered by the Bureau of Indian Standards (BIS) under the *BIS Act*, 1986 as per the Resolutions No. 71 dated 21 February 1991 and No. 425 dated 28 October, 1992, published in the Gazette of the Government of India. For a product to be eligible for marking with ECO logo, it shall also carry the ISI Mark of BIS besides meeting additional environment friendly requirements. For this purpose, the Standard Mark of BIS would be a single mark being a combination of the ISI Mark and the ECO logo. Requirements to be satisfied for a product to qualify for the BIS Standard Mark for ECO friendliness, will be optional; manufacturing units will be free to opt for the ISI Mark alone also.

This revision, therefore, incorporates environment friendly requirements for computer paper which is based on the Gazette Notification No. 455 dated 13 November 1992 for paper as environment friendly products, published in the Gazette of India.

The composition of the committee responsible for formulation of this standard is given in Annex A.

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

PAPER, COMPUTER — SPECIFICATION

(First Revision)

1 SCOPE

This standard prescribes requirements and methods of sampling and tests for computer papers for use on computer printers or similar machines for recording, transmittting, reproducing and storage of data.

2 REFERENCES

The Indian Standards listed below are necessary adjuncts to this standard:

<i>IS No.</i>	<i>Title</i>
1060 (Part 1) : 1966	Methods of sampling and test for paper and allied products, Part 1 (revised)
1060 (Part 2) : 1960	Methods of sampling and test for paper and allied products, Part 2
1848 : 1991	Specification for writing and printing paper (<i>third revision</i>)
5285 : 1969	Methods of test for fibre analysis of paper and board
9055 : 1979	Specification for one time carbon paper
9894 : 1981	Methods of test for smoothness/roughness of paper

3 TERMINOLOGY

3.1 For the purpose of this standard, the definitions of terms given in IS 1060 (Part 1) : 1966 and the following shall apply.

3.1.1 Continuous Length

A continuous length of paper in specified sizes folded zig-zag at the required distance in one or more copies for use on computer printers. It can also be made in roll form of specified dimensions.

4 REQUIREMENTS

4.1 Paper

The paper shall be in its natural white colour unless agreed to between the purchaser and the supplier.

4.1.1 The grammage (substance) of computer paper shall normally be 60 g/m², when tested according to the method prescribed in 6 of IS 1060 (Part 1) : 1966, or as

agreed to between the purchaser and the supplier. However, the mean of 10 test results shall not vary from the nominal grammage (substance) by more than ± 4 percent, no limit being prescribed for variation in individual test results.

4.1.2 The paper shall accept the printing without any smudge when printed with water, spirit, toluene, xylene or oil based ink.

4.2 Computer paper shall be in one, two, three or four parts respectively folded in a zig-zag (Z-fold) fashion at a distance, prescribed by the purchaser. If desired by the purchaser, each layer of the paper shall be interleaved with the carbon papers, conforming to IS 9055 : 1979.

NOTE — Interleaving of carbon paper can be dispensed with, if the layer of paper are coated chemically such that after writing on the original copy, legible impressions are obtained up to the last copy.

4.3 At the Z-fold, the creases shall be perforated in such a manner that the paper is joined but is capable of separation, if need be, by an easy jerk.

4.4 At both the sides of computer paper, on the width size, there shall be uniformly punched feed holes, free from fibres and burrs unless otherwise agreed to between the purchaser and the supplier. The diameter of the feed holes shall be 4.00 ± 0.05 mm, at a distance of 12.70 ± 0.05 mm from each other. The hole centre from the edge of the paper shall be 6.00 ± 0.05 mm.

4.5 The purchaser shall specify the size and number of parts in which the computer paper is required. The computer paper, in single or multipart, may be printed if so desired by the purchaser.

4.6 The computer paper shall also comply with the requirements given in Table 1, when tested in accordance with the method referred to in col 4 of Table 1.

4.7 Additional Requirements for ECO Mark

4.7.1 General Requirements

4.7.1.1 The product shall conform to the requirements for quality and performance prescribed under 4.1 to 4.6.

4.7.1.2 The manufacturers shall produce to BIS.

Table 1 Requirements for Computer Paper
(Clauses 4.6 and 6.2)

SI No. (1)	Characteristic (2)	Requirements (3)	Method of Test, Ref to Indian Standard (4)
i)	Bulk cc/gm, <i>Min</i>	1.20	8 of IS 1060 (Part 1) : 1966
ii)	Moisture content, percent by mass, <i>Max</i>	7.0	9 of IS 1060 (Part 1) : 1966
iii)	Ash, percent, <i>Max</i>	20.0	11 of IS 1060 (Part 1) : 1966
iv)	Tensile index, <i>Min</i> (Nm/g)	CD 17.0 MD 25.0	12.4 of IS 1060 (Part 1) : 1966
v)	Burst index, kPa.m ² /g, <i>Min</i>	1.2	12.5 of IS 1060 (Part 1) : 1966
vi)	Tear index, mN.m ² /g, <i>Min</i>	5.0	12.7 of IS 1060 (Part 1) : 1966
vii)	One minute cobb test, g/m ² , <i>Max</i>	22	13.2 of IS 1060 (Part 1) : 1966
viii)	Opacity, percent, <i>Min</i>	80	16 of IS 1060 (Part 1) : 1966
ix)	Brightness, <i>Min</i>	70	13 of IS 1060 (Part 2) : 1960
x)	Smoothness, sec/50 ml, <i>Min</i>	30	4 of IS 9894 : 1981

Burst index = Burst factor × 0.098.

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* alongwith the authorization, if required under the *Environment (Protection) Act, 1986* while applying for ECO Mark.

4.7.2 Specific Requirements

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

- Type A* — The material shall be 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.
- Type B* — The material shall be manufactured from pulp made from 100 percent waste paper.

5 PACKAGING AND MARKING

5.1 The computer paper shall be made into unit folds of 250 (for 3 and 4 parts), 500 (for 2 parts) and 1 000 (for 1 part) depending upon the parts of the paper required by the purchaser.

5.2 It shall be packed in 5-ply corrugated cartons to ensure that the paper is not damaged due to handling and transportation or shall be as agreed to between the purchaser and the supplier.

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

NOTE — Subsequently the parameters evolved for packaging materials/packages for ECO Mark, which are currently being developed shall also apply.

5.3 The package shall be marked with the following particulars:

- Description and size of the material.
- Thickness in microns and grammage (substance) in g/m².
- Number of parts (copies).
- Carbonless or carbon interleaved (not applicable for 1 part stationery).
- Lot number.
- No. of sheets.
- Month and year of manufacture, and
- Indication of the source of manufacture.

5.3.1 The package may also be marked with the Standard Mark.

5.3.1.1 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.

5.3.2 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.”

6 SAMPLING AND CRITERIA FOR CONFORMITY

6.1 The sampling of computer paper shall be done as prescribed in 3 of IS 1060 (Part 1) : 1966.

6.2 Tests

From each of the packets selected from the lot (*see* 6.1), 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 4.1 to 4.4. 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.

6.3 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 (Foreword)

COMMITTEE COMPOSITION

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