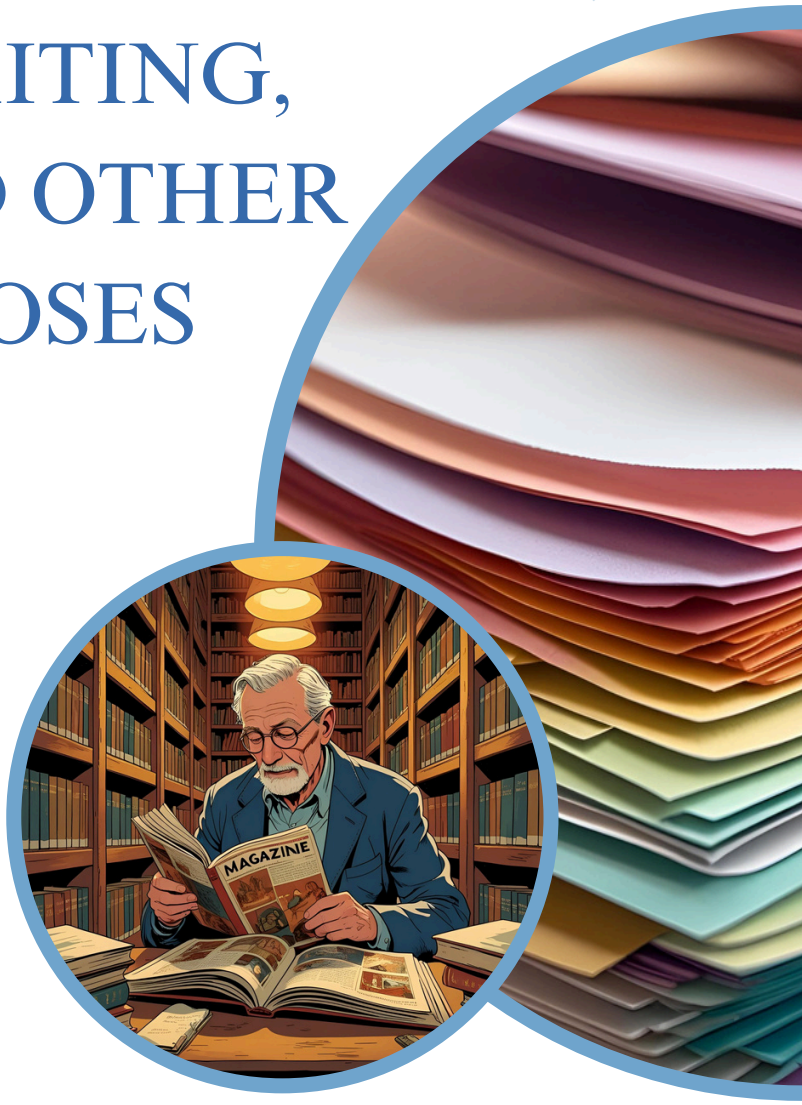
COMPENDIUM OF INDIAN STANDARDS ON

PAPER FOR WRITING, PRINTING AND OTHER SIMILAR PURPOSES



Prepared By
CHEMICAL DEPARTMENT

BUREAU OF INDIAN STANDARDS
NEW DELHI

Table of Contents

INTRODUCTION

Paper has played a crucial role in the development of human civilization, serving as a primary medium for communication, education, documentation, and packaging for centuries. Despite the rise of digital alternatives, paper remains an essential material in both everyday life and industrial applications due to its versatility, biodegradability, and renewability. From books and newspapers to packaging and hygiene products, its wide range of uses highlights its continuing relevance. Understanding the importance of paper not only underscores its impact on culture and commerce but also brings attention to sustainable practices in its production and consumption.

Indian paper industry accounts for about 5-6% of the world's production of paper, paperboard and newsprint, making it the fifth-largest paper producer globally, with an estimated production of around 23 million tonnes per annum. Annual per capita consumption of paper in India is estimated to be about 15-16 kg, which is significantly lower than the world average of 57 kg.

This compendium aims at providing an overview of Indian Standards on paper for writing, printing and other similar purposes, offering insights into their varieties. This document would serve as a handy reference for paper manufacturers and suppliers, printers and publishers, procurement officers in Government and private sector offices, students and Researchers in paper technology, and the general public.

1. IS 1848 (Part 1):2018 and IS 1848 (Part 2):2018 for Writing and Printing paper

Scope:

IS 1848 (Part 1) prescribes requirements and methods of test for account book, azure, laid, bond, cream laid and cream wove/printing white/printing coloured/printing offset, printing maplitho, printing white super calendered and typewriting varieties of writing and printing papers.

IS 1848 (Part 2) prescribes requirements and methods of test for Air mail/manifold, Cartridge drawing, Cartridge white, duplicating absorbent and duplicating semi-absorbent, Poster machine glazed varieties of writing and printing papers.

Key Provisions:

1) Specifies the limit of mechanical pulp used to make the paper.

2) Prescribes the requirements and permissible tolerance for substance as well as size.

3) Prescribes the permissible limits for parameters such as tensile index, brightness, opacity, double fold, gloss, smoothness, tear index etc., to ensure the quality of paper.

2. IS 14490:2024 Plain Copier Paper - Specification

Scope: This Indian Standard covers the requirements for plain copier paper, commonly known as photocopier paper.

Key Provisions:

1) Specifies the permissible grammages and corresponding thicknesses.

2) Prescribes the allowable paper sizes and corresponding tolerance.

3) Prescribes the permissible limits for parameters such as brightness, opacity, surface strength, ash content, tensile index, tear index etc., to ensure the quality of paper.

4) Recommends alternate sources of fibrous natural substrate to reduce the load on natural forest and to meet the need of raw material for making of pulp and paper.

3. IS 11688:2022 Standard Newsprint — Specification

Scope: This Indian Standard provides the technical specification for standard newsprint intended for use in printing presses for publication of newspapers and periodicals.

Key Provisions:

1) Provides guidance on the materials and methods for manufacture of newsprint.

2) Defines two grades of standard newsprint.

3) Prescribes the permissible range of grammage and thickness of newsprint.

4) Prescribes the permissible limits for parameters such as tensile index, /ISO brightness, porosity, smoothness, tear index etc., to ensure the quality of paper.

4. IS 12766:2023 Computer Paper – Specification

Scope: This Indian Standard outlines the technical requirements for computer paper, which 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.

Key Provisions:

1) Provides guidance on the colour and tint of computer paper.

2) Prescribes the permissible grammage, and tolerance on size.

3) Prescribes the permissible limits for parameters such as tensile index, tear index, burst index, bulk, opacity, brightness, ash content, moisture content etc.

5. IS 17568:2021 Thermal Paper — Specification

Scope:

Thermal paper is a special paper type that is manufactured with specialty coating that aids in inkless printing. On application of heat to the coating, a clear image is formed on the paper with no requirement for ribbons or inks. The coating usually turns black on heating, which, in turn, transfers the image to the paper.

Thermal printing is used in many applications such as point of sales solutions for the printing of invoices, ATM and credit card slips, parking tickets, labels as well as print solutions for specialized applications, such as ECGs.

IS 17658 prescribes the requirements for thermal paper.

Key Provisions:

1) Prohibits the presence of Bisphenol A in thermal paper.

2) Prescribes the permissible limits for quality parameters under four broad categories, as given below:

- Thermal coated paper properties, such as tensile index, tear index, opacity, static and dynamic thermal image color density etc.
- Thermal properties, such as imaging colour, static and dynamic colour development properties, background image density etc.
- Climatic durability, such as resistance to heat, humidity and light.
- Chemical durability, such as drop in image density on exposure to Lanolin hand cream, ethanol, plasticizer etc.

6. IS 1774:2022 Paper for Permanent and Semi-Permanent Records — Specification

Scope: Paper meant for permanent and semi-permanent records are expected to last anywhere from 50 years to several centuries. Such papers find application in archives, preparation of highly important documents, deeds etc. This Indian Standard outlines the technical requirements to ensure the permanence of paper meant for permanent and semi-permanent records.

Key Provisions:

1) Classifies the paper in to three types based on its expected life, with type 3 expected to last at least 50 years and type 1 expected to last several centuries.

2) Each type of paper is further classified in to two grades, based on the frequency of usage.

3) For each type and grade, permissible limits for parameters such as pH, alkali filler material, tear index, opacity, folding endurance etc., are prescribed to ensure the quality of the paper.

7. IS 3064:2018 Hand-made Drawing Paper — Specification

Scope: Handmade paper is manufactured sheet by sheet by hand, rather than by a papermaking machine. Hand-made drawing paper is made of 100 percent rag pulp. This Indian Standard prescribes the requirements for handmade paper for drawing.

Key Provisions:

1) Ensures that the paper is erasable and suitable for writing with ink.

2) Prescribes the tolerance on nominal substance and size.

3) Prescribes accelerated ageing test to ensure that depreciation in the performance of the paper over time is minimal.

4) Prescribes the permissible limits for parameters such as alpha-cellulose content, tensile index, tear index, burst index, folding endurance, erasability, brightness, pH etc., to ensure optimal performance of the paper.

8. IS 3450:2022 Carbon paper – Handwriting — Specification

Scope: Carbon papers specifically designed for handwriting applications are used to create accurate carbon copies using pencils or pens and are available in various colors, including black, blue, and purple. This standard prescribes requirements and methods of sampling and test for carbon papers black, blue and purple, multiple use, for taking carbon copies with pencil or pen.

Key Provisions:

1) The standard classifies carbon papers into three distinct grades: Grade A (single side pencil carbon), Grade B (double side pencil carbon), and Grade C (single side pen carbon).

2) Prohibits the presence of blemishes such as wrinkles, tears etc., and limits the presence of defects such as pinholes and creases. Further, the coating shall be smooth, uniform and free from smudginess and shall not show any tendency to offset or stain on normal handling. All of this ensures that the carbon paper is fit for flawless creation of copies.

3) Prescribes the permissible limits for parameters such as substance of paper, mass of coating, durability (minimum number of impressions at the same spot), resistance to curling etc., to ensure the quality of the paper.

9. IS 4658:2019 Specification for Coated Paper and Board (Art and Chromo)

Scope: Coated paper and board (art and chromo) are commonly used for high-quality printing like magazines, brochures, greeting cards and fine decorative printing. IS 4658 prescribes the

requirements, methods of sampling and test for coated paper and board (art and chromo), matt and gloss finish.

Key Provisions:

1) Classifies coated paper and board in to two types, gloss and matt, based on the finish.

2) Prohibits the presence of blemishes such as holes, hard spots, lumps, loosely bound fibres and blisters for flawless appearance.

3) Prescribes the permissible sizes, thickness and substance, as well as their tolerances.

4) Prescribes requirements such as burst index, surface pH, gloss percent, brightness, smoothness etc., to ensure optimum performance.

10. IS 1060 series on Method of Sampling and Test for Paper and Allied Products

IS 1060 series of standards prescribe the methods of test for paper, board, pulps and cellulose nanomaterials. Under IS 1060 series, there are 8 parts and several sections, each one prescribing a particular method of test, for example, determination of grammage, pH, ash content, bursting strength, water absorptiveness etc. Most of these standards are harmonized with the corresponding /ISO standards, and thereby prescribe internationally accepted methods of test.

The list of standards under IS 1060 series are tabulated below –

IS 1060 (Part 1) : 2022	Methods of Sampling and Test for Paper and Allied Products Part 1 Test Methods for General Purpose
IS 1060 (Part 2) : 1960	Methods of sampling and test for paper and allied products: Part 2
IS 1060 (Part 3) : 1969	Methods of sampling and test for paper and allied products: Part 3
IS 1060 (Part 4) Methods of Test for Paper, Board and Pulp	
(Sec 1) : 2025/ISO 187:2022	Standard atmosphere for conditioning and testing and procedure for monitoring the atmosphere and conditioning of samples
(Sec 2) : 2018/ISO 1762 : 2015	Determination of residue (Ash) on ignition at 525°C
(Sec 3) : 2018/ISO 2144 : 2015	Determination of residue (Ash) on ignition at 900°C
(Sec 4) : 2024/ISO 2469:2024	Measurement of diffuse radiance factor (diffuse reflectance factor)
(Sec 7) : 2024/ISO 6588-2:2021	Determination of pH of Aqueous Extracts – Hot Extraction Method
(Sec 8) : 2024/ISO 9197:2016	Determination of water-soluble chlorides
(Sec 9) : 2024/ISO 9198:2020	Determination of Water-Soluble sulfates

(Sec 10) : 2024/ISO 11480:2017	Determination of Total Chlorine and Organically Bound Chlorine
(Sec 11) : 2014/ISO 12830 : 2011	determination of acid soluble magnesium, calcium, manganese, iron, copper, sodium and potassium
(Sec 12) : 2019/ISO 10775 : 2013	Determination of cadmium content - Atomic absorption spectrometric method
(Sec 13) : 2020 /ISO 2470-1 : 2016	Measurement of diffuse blue reflectance factor – Indoor daylight conditions (ISO brightness)
IS 1060 (Part 5) Methods of test for paper and board	
(Sec 1) : 2014/ISO 186 : 2002	Sampling to determine average quality
(Sec 2) : 2021/ISO 287:2017	Determination of moisture content of a lot – Oven-drying method
(Sec 3) : 2014/ISO 534 : 2011	Determination of thickness, density and specific volume
(Sec 4) : 2024/ISO 535: 2023	Determination of Water Absorptiveness – Cobb Method
(Sec 5) : 2021/ISO 536:2019	Determination of grammage
(Sec 6) : 2014/ISO 1924-2 : 2008	Determination of tensile properties - Constant rate of elongation method (20 Mm/min)
(Sec 8) : 2024/ISO 2493-2:2020	Determination of bending resistance Taber-type tester
(Sec 9) : 2014/ISO 3783 : 2006	Determination of resistance to picking - Accelerated speed method using the IGT - type tester (Electric Model)
(Sec 10) : 2015/ISO 5627 : 1995	Determination of smoothness (Bekk Method)
(Sec 11) : 2021/ISO 5636-3:2013	Determination of air permeance Medium Range-Bendtsen method
(Sec 12) : 2021/ISO 8254-1:2009	Measurement of specular gloss 75 degree gloss with a converging beam TAPPI method
(Sec 13) : 2021/ISO 5636-4	Determination of air permeance and air resistance medium range – Sheffield method
(Sec 14) : 2014/ISO 5636-5 : 2013	Determination of air permeance and air resistance (Medium Range) - Gurley method
(Sec 16) : 2015/ISO 8787 : 1986	Determination of capillary rise - Klemm method

(Sec 17) : 2024/ISO 8791-4:2021	Determination of roughness/smoothness (Air leak methods) – Print-surf method
(Sec 18) : 2024/ISO 11475:2017	Determination of CIE Whiteness, D65/10Â° (Outdoor Daylight)
(Sec 19) : 2024/ISO 11476:2016	Determination of CIE whiteness C2 Indoor illumination conditions
(Sec 20) : 2018/ISO 8791-2 : 2013	Determination of roughness/smoothness (Air Leak Methods) - Bendtsen method
(Sec 21) : 2019/ISO 8791 -3 : 2017	Determination of roughness / smoothness (Air leak methods) Sheffield method
IS 1060 (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
(Sec 3) : 2015/ISO 5626 : 1993	Determination of folding endurance of paper
IS 1060 (Part 7) Methods of Test for Board	
(Sec 1) : 2025/ISO 2759 : 2014	Determination of bursting strength of board
IS 1060 (Part 8) Methods of Test for Paper, Board, Pulps and Cellulose Nanomaterials	
(Sec 1) : 2025/ISO 1762 : 2019	Determination of Residue (Ash Content) on Ignition at 525°C
(Sec 2) : 2025/ISO 2144 : 2019	Determination of Residue (Ash Content) on Ignition at 900°C
(Sec 3) : 2025/ISO 12830 : 2019	Determination of Acid-Soluble Magnesium, Calcium, Manganese, Iron, Copper, Sodium and Potassium
(Sec 4) : 2025/ISO 638-1 : 2022	Determination of Dry Matter Content by Oven-Drying Method – Materials in Solid Form
(Sec 5) : 2025/ISO 638-2 : 2022	Determination of Dry Matter Content by Oven-Drying Method – Suspensions of Cellulosic Nanomaterials