

भारतीय मानक मसौदा  
रोटरी लेटरप्रेस अखबार की स्याही, काला — विशिष्टि  
( IS 8744 का पहला पुनरीक्षण)

*Draft Indian Standard*  
**Rotary Letterpress**  
**Newsprint Ink, Black — Specification**  
(*First Revision of IS 8744*)

(*Not to be reproduced without the permission of BIS or used as an Indian Standard*)

ICS 87.080

Printing Inks, Stationery and Allied Products  
Sectional Committee, CHD 14

Last date of comments: 01.07.2024

Printing Inks, Stationery and Allied Products Sectional Committee, CHD 14

FOREWORD

(*Formal clauses will be added later*)

This standard was originally published in 1978. In this revision, Reference clause has been incorporated. Also Packing and Marking clause has been updated. Now, the standard has been updated based on the technological advancements that may have taken place since the last publication of the Standard.

Some of the characteristics of letterpress newsprint ink depend upon the speed of the machine. Newspaper rotary machines are available with varying speed from 15 000 to 60 000 copies per hour.

This standard requires reference to IS 6931 which is a necessary adjunct to it.

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

*Draft Indian Standard*  
**ROTARY LETTERPRESS NEWSPRINT INK, BLACK —  
SPECIFICATION**  
(*First Revision*)

**1 SCOPE**

This standard prescribes the requirements and the methods of sampling and test for rotary letterpress newsprint ink, black.

**2 REFERENCES**

The standards listed below contain provisions which through reference in this text, constitute provision 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 editions of the standards indicated below:

<i>IS No</i>	<i>Title</i>
IS 4395 : 1987	Glossary of terms relating to inks and allied industries ( <i>first revision</i> )
IS 6931 : 2023	Printing inks — Methods of test

**3 TERMINOLOGY**

**3.1** For the purpose of this standard, the definitions given in IS 4395 and the following shall apply.

**3.1.1** *Approved/Standard Sample* — The sample accepted by the indenter or inspection authority as the basis of supply/manufacture.

**4 TYPES**

The material shall be of the following two types:

- Type 1* — for high speed rotary machines
- Type 2* — for low speed rotary machines

**5 REQUIREMENTS****5.1 Description**

**5.1.1** The material shall consist essentially of a dispersion of carbon black in suitable blends of mineral/vegetable oil with or without toner.

**5.1.2** The material shall dry only by penetration/absorption into the paper.

**5.1.3** The material shall distribute freely, work sharp and shall be free from excessive objectionable odour.

**5.1.4** The ink shall be free from flying and misting at the printing speed.

**5.2 Composition**

The ink shall contain not less than 9 percent by mass of solvent extracted residue when determined by the method prescribed in IS 6931.

**5.3 Hue (Shade)**

When tested by the method prescribed in IS 6931, the hue shall be comparable with the approved/ standard sample.

**5.4 Tinting Strength**

The tinting strength of the ink shall be within  $\pm 5$  percent of the approved/standard ink, when tested by the method prescribed in IS 6931.

**5.5 Fineness of Dispersion and Coarse Particles**

When tested for fineness of dispersion of pigment particles in the medium by the method prescribed in IS 6931, the material shall not be coarser than 10 microns.

### 5.6 Viscosity

The viscosity of Type 1 ink at  $(27 \pm 2)$  °C when determined by the flow cup method prescribed in IS 6931 shall be 300 s to 800 s. For Type 2 ink, the viscosity shall be as agreed to between the purchaser and the supplier.

### 5.7 Flowability

The flowability of the ink when tested by the method prescribed in Annex A shall be equal to that of approved/standard sample.

### 5.8 Penetration and Permeability

When tested by the method prescribed in Annex B, the penetration and permeability of the material shall be equal to those of approved/standard sample.

### 5.9 Drying Time on Paper

The drying time of the ink shall be not more than 2 min for Type 1 and not more than 5 min for Type 2 when determined by the method prescribed in Annex C.

### 5.10 Printing Strength, Distribution and Covering Power

When tested by the method prescribed in IS 6931 using newsprint paper, the ink shall be considered to possess satisfactory covering power and distribution property if no white areas or specks show through the dried film of the ink.

### 5.11 Strike Through

The ink shall not exhibit strike through more than the approved/standard sample when adjudged by the method prescribed in IS 6931 on the same type of newsprint paper.

## 6 PACKING AND MARKING

6.1 The material shall be packed in steel drums and shall be marked with the following information:

- a) Name and type of the material;
- b) Net mass;
- c) Month and year of packing;
- d) Name of the manufacturer and/or his recognized trade-mark, if any; and
- e) Lot number in code or otherwise.

### 6.2 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 thereunder, and the products may be marked with the Standard Mark.

## 7 SAMPLING

The method of drawing representative samples of the material, number of tests to be performed and the criteria for conformity of the material to the requirements of this specification shall be as prescribed in IS 6931.

## ANNEX A

(Clause 4.7)

## DETERMINATION OF FLOWABILITY

## A-1 APPARATUS

## A-1.1 Flow Gauge

As shown in Fig. 1. It shall consist of a glass plate with a holder to support. The glass plate shall be about 120 mm × 165 mm, and its surface shall be clean and smooth. The face opposite to that on which ink drops are placed shall be cross-lined.

## A-1.2 Dropping Rod

It shall be of brass, 5 mm in diameter and 150 mm in length with one end rounded into a half sphere. A mark is provided at a distance of 30 mm from the rounded tip.

## A-2 PROCEDURE

**A-2.1** Dip the dropping rod in the well-mixed sample of the ink at  $(27 \pm 2)$  °C to the 30 mm mark. Remove the rod vertically and after the dripping line from the rod has stopped, allow two drops of the ink to drop on the marking line of the glass plate. Immediately place the glass plate vertically in the holder as shown in Fig. 1, and allow the ink drops to flow down the glass plate for 10 min.

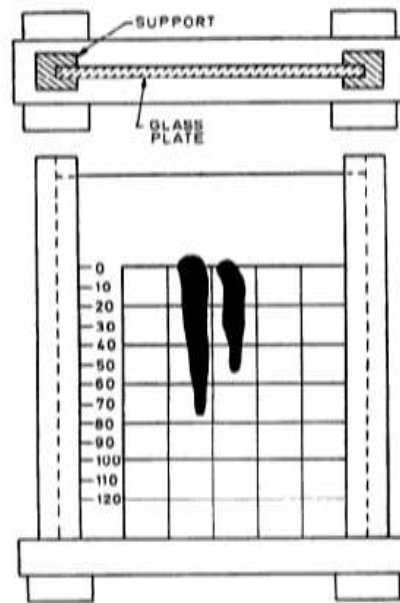


FIG. 1 FLOW GAUGE

**A-2.1.1** Repeat the test in the same manner with the approved/ standard ink. The material shall be considered satisfactory if the length of the flow of the sample is equal to that of approved/standard ink.

**ANNEX B***(Clause 4.8)***DETERMINATION OF PENETRATION AND PERMEABILITY****B-1 APPARATUS****B-1.1 Dropping Rod** — same as in **A-1.2****B-2 PROCEDURE**

**B-2.1** Dip the dropping rod in the well-mixed sample of the ink at  $(27 \pm 2)$  °C to the 30 mm mark and remove it out vertically. After the dripping line from the rod has stopped, transfer a drop of the ink on a sheet of newsprint paper. Measure the diameter of the portion of the paper penetrated by the vehicle after 10 min, 30 min and 60 min. At each time interval measure the long and short diameters, and report the average in millimetres. Repeat the test in a similar manner with the approved/standard ink, using the same type of newsprint paper.

**B-2.2** The material shall conform to the requirements of the test if the average diameter after 10, 30 and 60 min is the same as that for the approved/standard ink.

**ANNEX C***(Clause 4.9)***DETERMINATION OF DRYING TIME ON PAPER****C-1 PROCEDURE**

**C-1.1** Pour the well-mixed sample of the ink at  $(27 \pm 2)$  °C on a sheet of newsprint paper and take a draw-down with a flat-edged steel spatula. Place a piece of newsprint paper about 120 mm in length and 20 mm in width hereafter called 'transfer paper' at right angles to the newsprint paper. Using fingers, lightly press the transfer paper in the direction of the longer edge and at the same time pushing the paper across the bottom paper. Remove the transfer paper and examine. If smudged, it shall be considered not dry. If the transfer paper repeat the test until no smudge is observed on the transfer paper, and determine the drying time in minutes.

**C-1.2** The ink shall be considered to have satisfactory drying property if the drying time is not above the limit specified in **5.9**.