
रोटरी लेटरप्रेस अखबार की स्याही, काला —
विशिष्टि
(पहला पुनरीक्षण)

**Rotary Letterpress Newsprint Ink,
Black — Specification**
(*First Revision*)

ICS 87.080

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FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Printing Inks, Stationery and Allied Products Sectional Committee had been approved by the Chemical Division Council.

This standard was first 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 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.

The composition of the Committee responsible for formulation of this standard is given in [Annex D](#).

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

*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 given 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 edition of these standards:

<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 (<i>first revision</i>)

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 indentor or inspection authority as the basis of supply/manufacture.

4 TYPES

The material shall be of the following two types:

- a) *Type 1* — for high speed rotary machines; and
- b) *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 ± 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 ± 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

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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 5.7)

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 ± 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.

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.

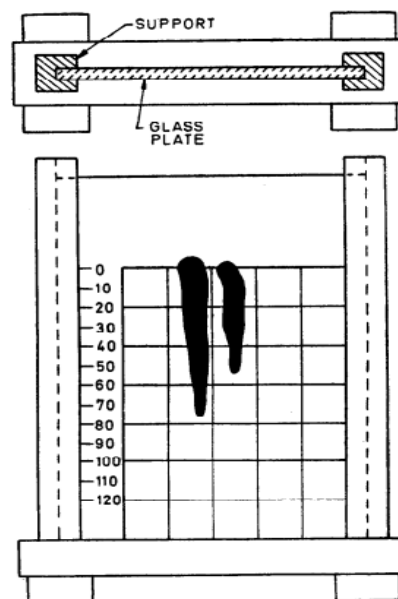


FIG. 1 FLOW GAUGE

ANNEX B

(Clause [5.8](#))

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 ± 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 min, 30 min and 60 min is the same as that for the approved/standard ink.

ANNEX C

(Clause [5.9](#))

DETERMINATION OF DRYING TIME ON PAPER

C-1 PROCEDURE

C-1.1 Pour the well-mixed sample of the ink at (27 ± 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. is 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](#).

ANNEX D

(Foreword)

COMMITTEE COMPOSITION

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

<i>Organization</i>	<i>Representative(s)</i>
Government Printing West Bengal, Kolkata	SHRI SUBIR KUMAR MANDAL (<i>Chairperson</i>)
All India Federation of Master Printers, New Delhi	SHRI HARJINDER SINGH
All India Printing Ink Mfgs Association Ltd, Mumbai	SHRI SHIVRAM ANGNE SHRI R. SRIDHARAN (<i>Alternate</i>)
All India Print-Tech Professionals Forum, Kolkata	SHRI PARTHA PRATIM SANYAL
Consumer Voice, New Delhi	SHRI MAU KHAN DR RAJIV JHA (<i>Alternate</i>)
Department of Post, Ministry of Communication, New Delhi	SHRI S. BUCHCHAN DR AMARPREET DUGGAL (<i>Alternate</i>)
Directorate of Printing, New Delhi	SHRI D. K. JAIN SHRI K. K. PURI (<i>Alternate</i>)
DIC India Limited, Noida	DR KAMAKSHI CHRISTOPHER SHRI VIVEK TIWARI (<i>Alternate</i>)
Flint Group, Noida	SHRI KAMLESH GANATRA SHRI DINESH AHUJA (<i>Alternate</i>)
Government of Indian Stationery Office, Kolkata	SHRI BISHAMBER DHAR SHRI RAKESH KUMAR SUKUL (<i>Alternate</i>)
Hi-Tech Inks Private Limited, Mumbai	SHRI ANIL RASTOGI SHRI VIPIN CHAUDHRY (<i>Alternate</i>)
Hubergroup India Pvt Ltd., Vapi	SHRI AMIT DAMMANI SHRI PRASANTA SARKAR (<i>Alternate</i>)
Indian Institute of Packaging, New Delhi	DR TANWEER ALAM SHRI BIDHAN DAS (<i>Alternate</i>)
Kokuyo Camlin Limited, Mumbai	SHRI MANIK J. SALUNKHE SHRIMATI SAYALI SURAJ SARFARE (<i>Alternate</i>)
Kumarappa Handmade Paper, Jaipur	DR SAAKSHY AGARWAL
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National Test House, Ghaziabad	SHRI BUDDH PRAKASH
Sakata Inx (India) Ltd, New Delhi	SHRI VIJAY SHANKAR GUPTA SHRI SUNIL K. CHHABRA (<i>Alternate</i>)
Security Printing and Minting Corporation of India Limited, New Delhi	SHRI S. MAHAPATRA DR D. K. RATH (<i>Alternate</i>)
Shriram Institute for Industrial Research, Delhi	DR MANMOHAN KUMAR DR VINAY TYAGI (<i>Alternate</i>)

<i>Organization</i>	<i>Representative(s)</i>
Siegwerk Inks, Bhiwadi	SHRI UMESH BHENDE MS BENITA PAUL (<i>Alternate</i>)
SICPA India Ltd, New Delhi	DR PRAVEEN KUMAR YADAV
The Regional Institute of Printing Technology, Kolkata	SHRI SHANKHYA DEBNATH SHRI KRISHNENDU HALDER (<i>Alternate</i>)
Times Group, Delhi	SHRI SNEHASIS ROY SHRI ANUP KUMAR PAL (<i>Alternate</i>)
Toyo Ink India Pvt Ltd, Gautam Budh Nagar	SHRI VIVEK RASTOGI SHRI SANJEEV KUMAR (<i>Alternate</i>)
Western Printing Group, Survey of India, Delhi	SHRI EQUERAR AHMAD
Whale Stationery Products Ltd, Delhi	SHRI MUKESH GUPTA SHRI ASEEM GUPTA (<i>Alternate</i>)
Yansefu Inks and Coating Pvt Ltd, Gurugram	SHRI NEELAKAMAL MOHAPATRA SHRI ANGSHUMAN MUKHERJEE (<i>Alternate</i>)
BIS Directorate General	SHRI A. K. LAL, SCIENTIST 'F'/SENIOR DIRECTOR AND HEAD (CHEMICAL) [REPRESENTING DIRECTOR GENERAL (<i>Ex-officio</i>)]

Member Secretary
SHRI SAGAR SINGH
SCIENTIST 'D'/JOINT DIRECTOR
(CHEMICAL), BIS

Bureau of Indian Standards

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