

भारतीय मानक

लैटरप्रेस हाफटोन स्याही, काली — विशिष्ट

(पहला पुनरीक्षण)

Indian Standard

LETTERPRESS HALFTONE INK,
BLACK — SPECIFICATION

(*First Revision*)

ICS 87.080

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

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Price Group 2

FOREWORD

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

Letterpress halftone ink is a special category of letterpress ink which has been widely used in halftone photo reproduction printing, generally on art paper. The major factors governing the quality of this class of ink are blackness, dispersion, covering power, drying time and printability of the ink.

Authentic methods are not available for an objective assessment on some of the requirements independent of an approved/standard sample. Efforts to produce standardized procedure with instruments have not yet been successful. Comparative tests against a standard sample are accepted as giving the only reliable measure for such characteristics.

This standard was originally formulated in 1975 to assist the printing ink manufacturers to prepare an ink satisfying the specific requirements of the printer and the print buyer. In this standard, the requirements for composition, strike through and printing quality have been modified and a new requirement for tack has also been added.

At present there is no ISO Standard on the subject.

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***LETTERPRESS HALFTONE INK,
BLACK — SPECIFICATION***(First Revision)***1 SCOPE**

This standard prescribes requirements and methods of sampling and test for letterpress halftone ink, black.

2 REFERENCES

The 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 revision and parties to agreement 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>
3680 : 1987	Round printing ink containers (<i>first revision</i>)
4395 : 1987	Glossary of terms relating to inks and allied industries (<i>first revision</i>)
4658 : 1988	Coated paper and board (art and chromo) (<i>first revision</i>)
6931 : 1972	Methods of test for printing inks

3 TERMINOLOGY

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

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

4 REQUIREMENTS**4.1 Composition**

The ink shall consist of a suitable dispersion of carbon black in oleoresinous varnish, vegetable and/or hydrocarbon oils and additives or toners (if required), as deemed to qualify for letterpress halftone printing on coated stock.

4.1.1 There are various kinds of letterpress printing machines and the inks shall have good print characteristics and good machine runnability on coated paper (*see* IS 4658).

4.1.2 The ink shall have sufficient colour strength to produce print matters of 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 18 points range and shall be able to produce clear and sharp prints with no filling-in or spreading of halftones. The prints shall be comparable to the prints obtained with approved/standard sample with uniform print lay.

4.2 Hue

When tested by the method prescribed in **4.1** of IS 6931, the hue shall be comparable with the approved/standard ink.

4.3 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 **4.2** of IS 6931.

4.4 Fineness of Dispersion

When tested for fineness of dispersion of pigment particles in the medium by the method prescribed in **4.5** of IS 6931 the material shall not be coarser than 6 μm .

4.5 Tack

When tested by the method prescribed in **4.8** of IS 6931 on any standard tack measuring instrument, the tack of the ink shall be within ± 5 percent of the approved/standard ink.

4.6 Printing Strength, Distribution and Covering Power

When tested by the method prescribed in **4.6** of IS 6931 on a standard printability tester, 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.

4.7 Strike Through

The ink shall not exhibit any strike through when tested by the method prescribed in **4.7** of IS 6931.

4.8 Drying Time

The ink shall dry as quickly as the approved/standard ink when tested by the method prescribed in **4.9** of IS 6931.

4.9 Setting Time

The setting time of the ink shall be equal to that of approved/standard ink when tested by the method prescribed in 4.10 of IS 6931.

4.10 Printing Quality

4.10.1 The ink shall pass the test prescribed in 4.10.1.1.

4.10.1.1 Make a suitable block or plate of a series of rectangular screen 54, 40, 35 and 25 lines/cm for printing on coated paper (*see* IS 4658) to be used on a standard printability tester or a small proofing machine with measured volume of ink.

4.10.2 The ink shall pass the requirement of the test, if the prints are identical to those obtained with approved/standard sample.

NOTE — Screen 54 is ruled in such a manner that it has 54 opaque and 54 clear lines/cm, the opposite sides of which are equal and parallel, and all four angles are at right angles.

5 PACKING AND MARKING

5.1 Packing

The material shall be suitably packed in containers as agreed to between the purchaser and the supplier (*see* IS 3680).

5.2 Marking

The material shall be securely closed and legibly marked with the following details:

- a) Description of the material,
- b) Indication of the source of manufacture,
- c) Month and year of manufacture, and effective shelf life,
- d) Net mass of the material, and
- e) Lot number in code or otherwise to enable the batch of manufacture to be traced from records.

5.2.1 BIS Certification Marking

The containers may also be marked with the Standard Mark.

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

6 SAMPLING

Representative samples of the material shall be drawn and adjudged as prescribed in Annex A of IS 6931.

ANNEX A

(Foreword)

COMMITTEE COMPOSITION

Inks, Stationery and Allied Products Sectional Committee, CHD 14

<i>Organization</i>	<i>Representative (s)</i>
Asian Ink Company, New Delhi	SHRI Y. M. CHANDHOK (<i>Chairman</i>)
Asian Ink Company, New Delhi	SHRI MANISH CHANDHOK
All India Printing Ink Manufacturers Association, Mumbai	SHRI L. R. MHAMBREY
	SHRI V. K. SETH (<i>Alternate</i>)
All India Federation of Master Printers, New Delhi	SHRI V. N. CHHABRA
	SHRI V. K. MALIK (<i>Alternate</i>)
Ambitious Gold Nibs Manufacturing Co Pvt Ltd, New Delhi	SHRI B. R. CHARLA
	SHRI ATUL CHAGLA (<i>Alternate</i>)
Bal Krishna Pens Pvt Ltd, Mumbai	REPRESENTATIVE
BASF India, New Delhi	SHRI S. R. PATHAK
	SHRI ANIL KARRANE (<i>Alternate</i>)
Camlin Ltd, Mumbai	SHRI S. D. DANDEKAR
	SHRI M. S. SALUNKHE (<i>Alternate</i>)
Chelpark Company Pvt Ltd, Bangalore	SHRI B. S. RAWAT
	SHRI V. SRIDHAR (<i>Alternate</i>)
Coates India Ltd., Kolkata	SHRI S. K. GUPTA
	SHRI R. N. GHOSH (<i>Alternate</i>)
Currency Note Press, Nasik	SHRI GANGA PRAKASH
	SHRI SUMIT SINHA (<i>Alternate</i>)
Department of Industrial Development, New Delhi	SHRI P. K. JAIN
	SHRI N. C. TIWARI (<i>Alternate</i>)
Gestetner (India) Ltd, Kolkata	REPRESENTATIVE
Govt of India Stationery Office, Kolkata	SHRI R. K. ROY
	SHRI S. K. GANGOPADHYAY (<i>Alternate</i>)
Hindustan Inks and Resin Ltd, Mumbai	SHRI S. S. KULKARNI
	SHRI N. V. PATHORA (<i>Alternate</i>)
Kores India Ltd, Mumbai	SHRI S. M. KHANNA
	SHRI K. K. MISHRA (<i>Alternate</i>)
Kriskem Industries, Ghaziabad	SHRI V. K. SHARMA
Luxor Writing Instruments Ltd, New Delhi	SHRI SALESH KAPOOR
Ministry of Communication, New Delhi	SHRI L. K. PURI
National Institute of Science Communication and Information Resources, New Delhi	SHRI PANKAJ GUPTA
National Archives of India, New Delhi	SHRI K. B. NAGPAL (<i>Alternate</i>)
	DR R. P. MALIK
	DR (MRS) YOSHADHARA JOSHI (<i>Alternate</i>)
National Test House (NR), Ghaziabad	DR S. K. SAHA
	DR R. GHOSH (<i>Alternate</i>)
Office of Development Commissioner (SSI), New Delhi	SHRI S. R. SINGH
	DR J. S. REKHI (<i>Alternate</i>)
Office of Director, Survey of India, Dehra Dun	SHRI GUR PRAKASH
	SHRI V. K. GUPTA (<i>Alternate</i>)
Poyesha Industrial Company Ltd, Thane	REPRESENTATIVE
Rainbow Ink and Varnish Manufacturing Company Ltd, Mumbai	SHRI HABIB H. CONTRACTOR
	DR P. C. CHATTERJEE (<i>Alternate</i>)
Sanghvi Writing Industries Ltd, Thane	SHRI J. D. SANGHVI
	SHRI KETAN MEHTA (<i>Alternate</i>)
Shriram Institute for Industrial Research, Delhi	DR P. K. KAICHER
	SHRI A. MAJUMDAR (<i>Alternate</i>)
The All India Plastic Manufacturers' Association, Mumbai	SHRI RAJIV JAIN
	SHRI SUNIL MONGA (<i>Alternate</i>)
Thomson Press India Ltd, Faridabad	REPRESENTATIVE
BIS Director General	DR U. C. SRIVASTAVA, Director & Head (CHD) [Representing Director General (<i>Ex-officio</i>)]

Member-Secretary

SHRI P. GHOSH

Scientist E Director (CHD), BIS

Bureau of Indian Standards

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