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“पुराने को छोड़ नये के तरफ”

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IS 14314 (1995): Thinner general purposes for synthetic paints and varnishes [CHD 20: Paints, Varnishes and Related Products]



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“Knowledge is such a treasure which cannot be stolen”

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भारतीय मानक

संश्लिष्ट रंग-रोगन व वार्निशों के लिए सामान्य उपयोग
में आने वाला तनुकारक — विशिष्ट

Indian Standard

THINNER, GENERAL PURPOSE, FOR
SYNTHETIC PAINTS AND VARNISHES —
SPECIFICATION

ICS 87-060-30

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

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Paint (Other Than Industrial Paint) and Allied Products Sectional Committee had been approved by the Chemical Division Council.

The need has been felt to formulate this Indian Standard since a very large volume of thinner is produced and used in the paint industry for thinning of synthetic enamels, primers, undercoats, varnishes, etc. BIS has formulated two Indian Standards for thinners related to paints used for aircrafts till date, but there is no standard for thinner formulated for synthetic paints and varnishes.

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

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

THINNER, GENERAL PURPOSE, FOR SYNTHETIC PAINTS AND VARNISHES — SPECIFICATION

1 SCOPE

1.1 This standard prescribes requirements and methods of sampling and test for thinner, general purpose, for synthetic paints and varnishes including primers, undercoats, enamels, clears, etc.

1.2 This material is used for reducing the paint consistency to enable application by brush, spray, dip, roller or any other suitable method.

2 NORMATIVE REFERENCES

2.1 The Indian Standards given in Annex A contain provisions which, through reference in this text, constitute provisions of this Indian Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties of agreements based on this Indian Standard are encouraged to investigate the possibility of applying the

most recent editions of the standards which are given in Annex A.

3 TERMINOLOGY

3.1 For the purpose of this standard, the definitions given in IS 1303 : 1983 and the following shall apply.

3.1.1 Ambient Temperature

It is the temperature between 21°C and 38°C.

4 REQUIREMENTS

4.1 Description

The material shall be predominantly based on a mixture of aliphatic and aromatic hydrocarbons derived from petroleum origin or coal tar distillation product and may also contain additives to improve certain characteristics like flow, levelling, odour, gloss, etc.

4.2 The material shall also conform to the requirements as given in Table 1.

Table 1 Requirements for Thinner, General Purpose

(Clause 4.2)

Sl No.	Characteristic	Requirement	Method of Test, Ref to	
			IS 82 : 1973	Annex
(1)	(2)	(3)	(4)	(5)
i)	Colour	Not darker than a freshly prepared solution of 0.003 0 g of potassium dichromate in one litre of distilled water	5	—
ii)	Odour	The material shall be free from acid/pungent odour	—	—
iii)	Spot test	The material shall show complete evaporation from white filter paper without leaving any stain or oily spot when tested at ambient temperature	—	—
iv)	Relative density at 27°C	0.76 to 0.81	6	—
v)	Distillation range with a minimum 95 percent recovery by volume	120°C to 240°C	7	—
vi)	Flash Point (Abel), <i>Min</i>	30°C	IS 101 (Part 1/ Sec 6) : 1986	—
vii)	Residue on evaporation, mg/100 ml, <i>Max</i>	25	8	—
viii)	Hydrocarbon content, <i>Min</i>	95	—	B
ix)	Water content, <i>Max</i>	0.5	IS 101 (Part 2/ Sec 1) : 1988	—
x)	Copper corrosion	The material shall not blacken or corrode clean metallic copper	11	—

5 KEEPING QUALITY

5.1 The material shall comply with requirements of this standard for at least a period of one year from the date of manufacture when stored in its original sealed containers under cover at ambient temperature.

6 PACKING AND MARKING

6.1 Packing

6.1.1 Unless otherwise agreed to between the purchaser and the supplier, the material shall be packed in rectangular tins conforming to IS 1406 : 1981 or in ungalvanized steel drums conforming to IS 2552 : 1979 and fitted with 38 mm or 44 mm screwed closures conforming to 5.3.2 of IS 2474 : 1983.

6.1.2 All containers for storage and transport of the material, since classified as inflammable and dangerous goods, shall, in addition, comply with the requirements of the latest issue of Red Tariff and the requirements as laid down from time to time by the Chief Inspectorate of Explosives, Government of India, for packing,

storage and transit of Inflammable Liquids and the Board of Trade Regulations as applicable thereon for transport by steamers.

6.2 Marking

The containers shall be securely closed and marked with the following information:

- a) Name of the material,
- b) Indication of the source of manufacture,
- c) Volume of the material, and
- d) Month and year of manufacture with lot number.

7 SAMPLING

7.1 The sampling should be done as per IS 101 (Part 1/Sec 1) : 1986.

7.1.1 The supplier shall submit the necessary tender samples packed in different containers, in duplicate, and each containing not less than 500 ml of the material. The container shall be marked 'KEEP AWAY FROM NAKED FLAME'.

ANNEX A

(Clause 2.1)

LIST OF REFERRED INDIAN STANDARDS

IS No.	Title	IS No.	Title
82 : 1973	Methods of sampling and test for thinners and solvents for paints (Re-affirmed in February 1991, A-2)	266 : 1993	Sulphuric acid (<i>third revision</i>)
101	Methods of sampling and test for paints, varnishes and related products:	878 : 1975	Measuring cylinders (<i>first revision</i>) (Reaffirmed in July 1991)
(Part 1/Sec 1) : 1986	Part 1 Test on liquid paints (general and physical), Section 1 Sampling (<i>third revision</i>) (Reaffirmed in February 1991)	1070 : 1992	Reagent grade water (<i>third revision</i>)
(Part 1/Sec 6) : 1986	Part 1 Test on liquid paints (general and physical), Section 6 Flash point (<i>third revision</i>) (Reaffirmed in June 1993)	1303 : 1983	Glossary of terms relating to paints and allied products (<i>second revision</i>) (Reaffirmed in February 1991)
(Part 2/Sec 1) : 1986	Part 2 Test on liquid paints (general and chemical), Section 1 Water content (<i>third revision</i>) (Reaffirmed in June 1993)	1406 : 1981	Rectangular tins for liquids (<i>third revision</i>)
		2474 : 1982	Metal closure for drums (<i>first revision</i>) (Reaffirmed in April 1992)
		2552 : 1979	Steel drums (galvanized and ungalvanized) (<i>third revision</i>) (Reaffirmed in February 1995)

ANNEX B[*Table 1, Item (viii)*]**DETERMINATION OF HYDROCARBON CONTENT****B-1 QUALITY OF REAGENTS**

B-1.1 Unless specified otherwise, pure chemicals and distilled water (*see* IS 1070 : 1992) shall be employed in tests.

NOTE — 'Pure chemicals' shall mean chemicals that do not contain impurities which affect the results of analysis.

B-2 APPARATUS

B-2.1 Stopped Graduated Measuring Cylinder, 100 ml capacity (*see* IS 878 : 1975).

B-3 REAGENTS**B-3.1 Sulphuric Acid**

Mix 80 ml of concentrated sulphuric acid (*see* IS 266 : 1993) with 20 ml water.

B-4 PROCEDURE

Transfer 50 ml of the thinner sample in the measuring cylinder. To this add 50 ml of sulphuric acid previously cooled with ice and mix thoroughly. Allow the contents of the cylinder to stand undisturbed overnight or until the mixture separates into two distinct layers. The top layer insoluble in sulphuric acid consists of the hydrocarbons. Carefully record the volume of the upper layer.

B-5 REPORTING

From the volume of the insoluble hydrocarbon portion and the volume of the sample, compute the percent by mass of hydrocarbon content.

ANNEX C

(Foreword)

COMMITTEE COMPOSITION

Paints (Other Than Industrial Paints) and Allied Products Sectional Committee, CHD 020

<i>Chairman</i>	<i>Representing</i>
DR GAUTAM RAY	Jenson and Nicholson (India) Ltd, Calcutta
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Amendments Issued Since Publication

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