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*Indian Standard*

SPECIFICATION FOR  
READY MIXED PAINT, BRUSHING, GREY  
FILLER, FOR ENAMELS, FOR  
USE OVER PRIMERS

( *Second Revision* )

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**INDIAN STANDARDS INSTITUTION**  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 110002

# *Indian Standard*

## SPECIFICATION FOR READY MIXED PAINT, BRUSHING, GREY FILLER, FOR ENAMELS, FOR USE OVER PRIMERS ( *Second Revision* )

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# *Indian Standard*

## SPECIFICATION FOR READY MIXED PAINT, BRUSHING, GREY FILLER, FOR ENAMELS, FOR USE OVER PRIMERS

### *( Second Revision )*

#### 0. FOREWORD

**0.1** This Indian Standard ( Second Revision ) was adopted by the Indian Standards Institution on 30 September 1983, after the draft finalized by the Paints and Allied Products Sectional Committee had been approved by the Chemical Division Council.

**0.2** This standard was first published in 1950 based largely on the interim co-ordinated draft produced with the assistance of representatives of manufacturers and various departments and authorities of Government of India, by the Co-ordinating Subcommittee of No. 5 Standing Committee on Specifications for Paints and Allied Stores of the General Headquarters, India ( now Army Headquarters ). It was subsequently revised in 1968 incorporating characteristics such as flattening properties, hold out property, flexibility and adhesion. This standard which was originally composition based was thus made performance oriented.

**0.3** In the present revision the requirement for drying time has been elaborated giving separate limits for surface and hard drying time. The requirement for hard drying time has been reduced from 12 to 8 hours and the surface drying time has been stipulated to be not more than 20 minutes. Additional characteristics of viscosity by flow cup method, opacity and dry film thickness have been included. Besides, requirement for the mass in kg/10 litres of the material has been made independent of the the approved sample.

**0.4** This standard contains clause **4.1** which calls for an agreement between the purchaser and the supplier.

**0.5** 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\*. The number of significant places retained

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\*Rules for rounding off numerical values ( revised ).

in the rounded off value should be the same as that of the specified value in this standard.

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## 1. SCOPE

**1.1** This standard prescribes the requirements, and the methods of sampling and test for ready mixed paint, brushing, grey filler, for enamels, for use over primers. The material is used as a filler over the primer in the painting system normally followed by enamels.

## 2. TERMINOLOGY

**2.1** For the purpose of this standard, the definitions given in IS : 101-1964\* and IS : 1303-1963† shall apply.

## 3. REQUIREMENTS

**3.1 Composition** — The material shall be of such a composition as to satisfy the requirements of this standard. In order to obtain satisfactory flattening properties, use of slate powder ( see IS : 61-1950‡ ) along with suitable extenders and pigments, as may be necessary, is recommended.

**3.2 Flattening Properties** — The material, when tested as prescribed in Appendix A, shall not be inferior to the approved sample.

**3.3 Hold Out Property** — The material shall pass the test as prescribed in Appendix B.

**3.4** The material shall also comply with the requirements given in Table 1.

**3.5 Water Content** — If water is suspected to be present in the material, it shall not exceed 0.5 percent when tested as prescribed in 14 of IS : 101-1964\*.

**3.6 Mass in kg/10 litres** — The minimum mass in kg/10 litres of this material when tested in accordance with 25 of IS : 101-1964\* shall be 14. It shall be, however, within  $\pm 3$  percent of the sample approved against this specification.

**3.7 Opacity** — The paint, after having been thinned to a consistency of 35 seconds ( Ford cup viscometer No. 4 ) with petroleum hydrocarbon solvent 145/205, low aromatic grade ( see IS : 1745-1978§ ) when applied

\*Methods of test for ready mixed paints and enamels ( second revision ).

†Glossary of terms relating to paints ( revised ).

‡Specification for slate powder for paints.

§Specification for petroleum hydrocarbon solvents ( second revision ).



**TABLE 1 REQUIREMENTS FOR READY MIXED PAINT, BRUSHING,  
GREY FILLER, FOR ENAMELS, FOR USE OVER PRIMERS**

( Clause 3.4 )

Sl No.	CHARACTERISTIC	REQUIREMENT	METHOD OF TEST ( REF TO CL No. IN IS : 101-1964* )
(1)	(2)	(3)	(4)
i)	Drying time		
	a) Surface dry	Not more than 20 minutes	7.1 and 7.2
	b) Hard dry	Not more than 8 hours	
ii)	Consistency	Smooth, uniform and suitable for brushing without appreciable drag on the brush	7.4
iii)	Viscosity by flow cup method	Not less than 80 seconds	7.4.1
iv)	Finish	Smooth and matt to semi-glossy	7.5
v)	Colour	Grey	11
vi)	Residue on sieve, percent by weight, <i>Max</i>	2.0	13
vii)	Flexibility and adhesion ( after 48 hours air-drying )	No visible damage or detachment of film	16
viii)	Flash point	Not below 30°C	24
ix)	Keeping properties	Not less than six months	31

\*Methods of test for ready mixed paints and enamels ( *second revision* ).

by a brush on a chequer board surface having alternate black and white squares, shall satisfactorily obscure the line of demarcation between the black and white squares.

**3.8 Dry Film Thickness** — The paint, thinned with petroleum hydrocarbon solvent, to a consistency of 35 seconds ( Ford cup viscometer No. 4 ), when applied by a brush, shall give a minimum dry film thickness of 20 micrometres in one coat

#### 4. PACKING AND MARKING

**4.1 Packing** — The material shall be packed as agreed to between the purchaser and the supplier.

**4.2 Marking** — The containers shall be marked with the name of the material; manufacturer's name and trade-mark, if any; volume of the material; and month and year of manufacture.

**4.2.1** The containers may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution ( Certification Marks ) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

**4.3** Other details of packing and marking shall be in accordance with the instructions given by the purchaser.

**5. SAMPLING**

**5.1** Representative samples of the material shall be drawn as prescribed in 3 of IS : 101-1964\*.

**6. TEST METHODS**

**6.1** Tests shall be conducted as prescribed in IS : 101-1964\* and in Appendices A and B. References to the relevant clauses of IS : 101-1964\* are given in col 4 of Table 1 and in 3.5 and 3.6, and to appendices in 3.2 and 3.3.

**6.2 Quality of Reagents** — Unless specified otherwise, pure chemicals and distilled water ( see IS : 1070-1977† ) shall be employed in tests.

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

**A P P E N D I X A**

( *Clauses 3.2 and 6.1* )

**DETERMINATION OF FLATTENING PROPERTIES**

**A-1. PROCEDURE**

**A-1.1** Brush on a mild steel panel, 150 × 150 × 0.800 mm in size, a coat of the material over a coat of primer and allow it to air-dry for 8 hours under laboratory drying conditions. Treat the approved sample in the same manner and at the same time. Subject both surfaces to

\*Methods of test for ready mixed paints and enamels ( *second revision* ).

†Specification for water for general laboratory use ( *second revision* ).

facing and rubbing and then compare the sample under test with the approved sample tested in the same manner and at the same time.

**A-1.2** The material, when so compared, shall not be inferior to the approved sample.

## APPENDIX B

( *Clauses 3.3 and 6.1* )

### DETERMINATION OF HOLD-OUT PROPERTY

#### B-0. GENERAL

**B-0.1 Outline of the Method** — The grey filler is applied over suitable primer on one half of a metal panel. This, after wet rubbing and allowing to dry, is overcoated with a film of synthetic enamel. The gloss of the enamel film on the filler coated portion is compared with the gloss on the other half.

#### B-1. PROCEDURE

**B-1.1** A metal panel, 0.063 0 to 0.800 mm thick and 300 × 150 mm in size, is cleaned, degreased and derusted as prescribed in 5.2 of IS : 101-1964\*.

**B-1.2** Apply one coat of primer conforming to IS : 2074-1979† and allow to dry overnight. Then apply the material uniformly to one half of the panel. Allow this to dry for 16 h. Apply one more coat of the material as above and allow to dry for another 16 h. The dry film thickness of the two coats of the material shall be between 40 to 50 micrometers.

Wet rub the film with emery paper No. 280 and wipe off. Allow this to dry for one hour. Overcoat this with synthetic enamel ( conforming to IS : 2932-1974‡ ) on the entire panel ( coated with filler as well as uncoated ).

**B-1.3 Report** — Examine the gloss of the enamel film on the filler coated portion visually with that of the other half. The gloss on the filler coated portion shall not be inferior to the other half when thus examined.

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\*Methods of test for ready mixed paints and enamels ( *second revision* ).

†Specification for ready mixed paint; drying, red oxide-zinc chrome, priming ( *first revision* ).

‡Specification for enamel, synthetic, exterior, (a) undercoating, (b) finishing ( *first revision* ).



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