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IS 11883 (1986): Ready mixed paint, brushing, red oxide, priming for metals [CHD 20: Paints, Varnishes and Related Products]



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**IS : 11883 - 1986**  
**( Reaffirmed 1996 )**

*Indian Standard*  
SPECIFICATION FOR  
READY MIXED PAINT, BRUSHING,  
RED OXIDE, PRIMING FOR METALS

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

**AMENDMENT NO. 1 AUGUST 2000  
TO  
IS 11883 : 1986 SPECIFICATION FOR READY MIXED  
PAINT, BRUSHING, RED OXIDE, PRIMING FOR  
METALS**

*[ Page 4, clause 3.1(d), col 2 ] — Substitute 'Not more than 30 percent' for  
'Not less than 30 percent'.*

( CHD 31 )

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Reprography Unit, BIS, New Delhi, India

# Indian Standard

## SPECIFICATION FOR READY MIXED PAINT, BRUSHING, RED OXIDE, PRIMING FOR METALS

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( Continued on page 2 )

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( Continued from page 1 )

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*Indian Standard*  
**SPECIFICATION FOR  
READY MIXED PAINT, BRUSHING,  
RED OXIDE, PRIMING FOR METALS**

**0. FOREWORD**

**0.1** This Indian Standard was adopted by the Indian Standards Institution on 15 October 1986, after the draft finalized by the Paints and Allied Products Sectional Committee had been approved by the Chemical Division Council.

**0.2** This standard is one of a series of Indian Standards for primers. At present, the primer based on red oxide is being used in the country for the protection of steel structures, specially for interior purposes. The concerned technical committee, therefore, decided to prepare a separate Indian Standard for ready mixed paint, brushing, red oxide, priming for metals.

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

**0.4** This paint does not have any corrosion inhibiting pigments, such as zinc chromate, calcium chromate, and barium potassium chromate, and, therefore, can be considered as a barrier type protective coating.

**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 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 the material commercially known as ready mixed paint, brushing, red oxide, priming for metals. The material is used as a primer on steel structures for interior use.

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



## 2. TERMINOLOGY

2.1 For the purpose of this standard, the definitions given in IS : 1303-1983\* and IS : 101-1964† shall apply.

## 3. REQUIREMENTS

3.1 **Composition** — The material shall be manufactured with the following ingredients mixed in such proportions as to satisfy the requirements of this standard:

<i>Ingredients</i>	<i>Requirement</i>
a) Pigment content ( as specified below )	50 ± 5 percent on the paint
Red oxide, natural or manufactured ( see IS : 44-1969‡ )	Not less than 40 percent on the pigment
b) Angillaceous matter	Remainder
c) Binder	Suitable varnish medium
d) Volatiles	Not less than 30 percent

3.2 **Resistance to Salt Spray** — When tested as prescribed in Appendix A, the panel prepared from the material shall show no signs of corrosion after continuous exposure for 72 hours in a salt spray cabinet.

3.3 **Mass in kg/10 Litres** — The minimum mass in kg/10 litres of the material when tested in accordance with 25 of IS : 101-1964† shall be 14. It shall be, however, within ± 3 percent of the sample approved against this specification, if any.

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

## 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 following information:

- a) Name of the material;
- b) Manufacturer's name and/or his recognized trade-mark, if any;

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\*Glossary of terms relating to paints ( *second revision* ).

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

‡Specification for iron oxide pigments for paints ( *first revision* ).

- c) Volume of the material;
- d) Batch number or lot number in code or otherwise; and
- e) Month and year of manufacture.

#### 4.2.1 The containers may also be marked with the Standard Mark.

NOTE — 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 Standard 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 BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

**TABLE 1 REQUIREMENTS FOR READY MIXED PAINT, BRUSHING,  
RED OXIDE, PRIMING FOR METALS**

( Clause 3.4 )

SL No.	CHARACTERISTIC	REQUIREMENT	METHODS OF TEST ( REF TO CL NO. IN IS : 101-1964* )
(1)	(2)	(3)	(4)
i)	Drying time:		
	a) Surface dry	Not more than 4 h	7.1, 7.2 and 7.3
	b) Hard dry	Not more than 18 h	
ii)	Consistency	Smooth and uniform, and suitable for brushing	7.4
iii)	Finish	Smooth and matt or egg-shell flat	7.5
iv)	Wet opacity	Between -10 and +20 percent of the approved sample	10
v)	Colour	That of iron oxide	11
vi)	Water content, percent by mass, <i>Max</i>	0.5	14
vii)	Scratch hardness	No such scratch as to show the bare metal	15.1
viii)	Flexibility and adhesion after 48 h of air-drying	No visible damage or detachment of film	16
ix)	Protection against corrosion under conditions of condensation ( expose for 4 days )	No signs of corrosion	18
x)	Flash point, °C, <i>Min</i>	30	24
xi)	Keeping properties	Not less than one year	31

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

**IS : 11883 - 1986**

## **5. SAMPLING**

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

**5.2 Criteria for Conformity** — A lot shall be declared as conforming to the requirements of this standard if the test results of the composite sample satisfy the requirements prescribed under 3.

## **6. TEST METHODS**

**6.1** Tests shall be conducted as prescribed in IS : 101-1964\*, and IS : 44-1969† and Appendix A. Reference to the relevant clauses of IS : 101-1964\* is given in 3.3 and col 4 of Table 1 and that of Appendix A in 3.2 and IS : 44-1969† and col 4 of Table 1.

**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* )

## **TEST FOR RESISTANCE TO SALT SPRAY**

### **A-1. APPARATUS**

**A-1.1** The apparatus illustrated diagrammatically in Fig. 1 and 2 consists essentially of a chemically inert container with a close-fitting cover in which a fine mist of the spray solution is produced through an atomizer in such a way that:

- a) panels supported on non-metallic supports with the metallic test face upwards at an angle of approximately 15° to the vertical are evenly coated with droplets of the solution;
- b) the salt spray is prevented by a baffle from impinging directly on the test faces of the panels; and
- c) salt solution drained from the test panels is not recirculated.

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

†Specification for iron oxide pigments for paints ( *first revision* ).

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

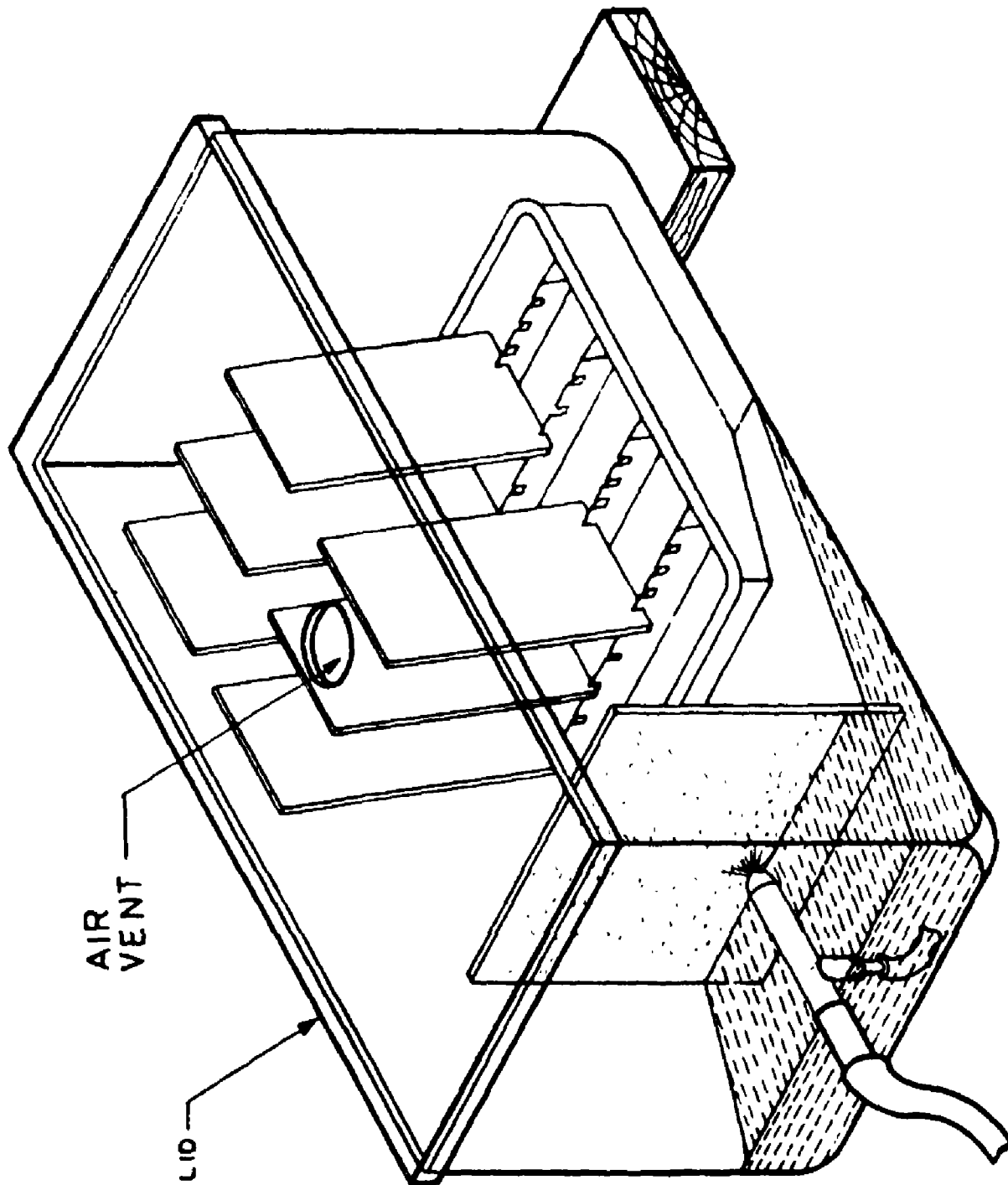


FIG. 1 SALT SPRAY APPARATUS

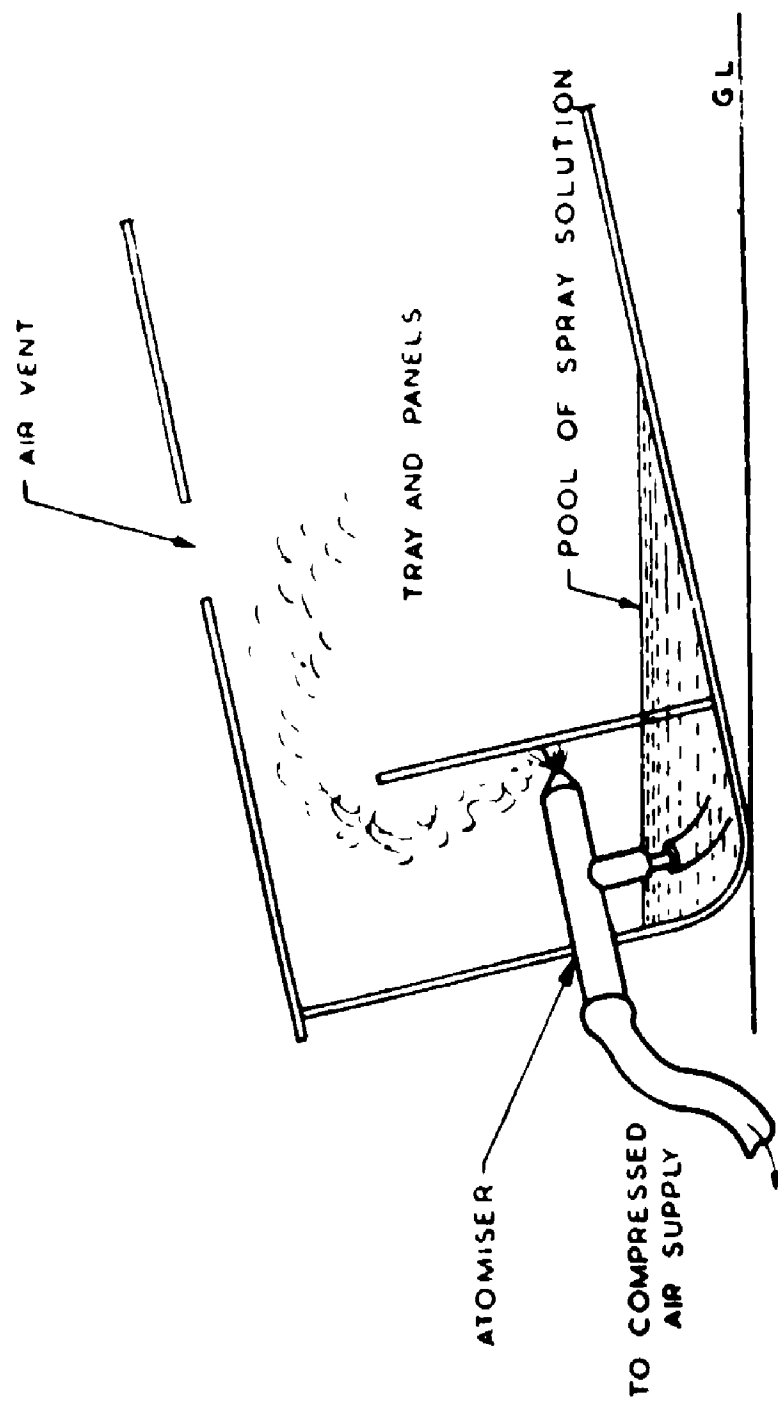


FIG. 2 PART SECTIONAL VIEW OF SALT SPRAY APPARATUS

**A-2. SPRAY SOLUTION**

**A-2.1** The spray solution shall have the following composition:

Calcium sulphate	1.3 g
Magnesium chloride	2.6 g
Magnesium sulphate	1.7 g
Sodium chloride	21.4 g
Water	To make up to one litre

**A-3. PROCEDURE**

**A-3.1** Prepare a panel of  $150 \times 100 \times 1.25$  mm mild steel plate as described in 18.2 of IS : 101-1964\* and expose it for 72 hours to a baffled spray of the spray solution.

**A-3.2 Reporting** — Remove a 25-mm strip of the film from the centre of the panel along the length, carefully, with a suitable paint remover and examine the exposed metal for signs of corrosion, neglecting, 25-mm portions of the exposed surface from each edge.

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

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