



CORPORATE PURCHASING SPECIFICATIONS

AA56101

Rev. No.08

PREFACE SHEET

ANTI-CORROSIVE PRIMING PAINT

FOR INTERNAL USE ONLY

REMOVE THIS PREFACE SHEET BEFORE ISSUE TO SUPPLIERS

Equivalent / Comparable Standards:

- | | |
|-----------|--------------------------|
| 1. INDIAN | IS:12744 (Part: 1): 2013 |
|-----------|--------------------------|

Suggested/ Probable Suppliers and Grades:

As per Respective Plant's PMD

User plants & Replaced Plant Specifications / References:

1. HEP, Bhopal
2. HEEP, Haridwar
3. HPEP, Hyderabad
4. HPBP, Trichy

Revisions:
Clause 3, 7 & 13

APPROVED:
INTER PLANT MATERIAL RATIONALISATION
COMMITTEE – MRC(CPO+NM)

Rev. No.08	Amd. No.	Reaffirmed	Prepared	Issued	Dt. of 1 st Issue
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<u>ANTI-CORROSIVE PRIMING PAINT</u>					
1.0 GENERAL: This specification governs the quality requirements of air drying Anti Corrosive ready mixed Red oxide Zinc phosphate priming paint which shall be capable of being brushed, sprayed by conventional methods. The priming paint shall be suitable to be thinned with MTO/white spirit conforming to BHEL specification AA56701. The paint shall be compatible with high quality full glossy outdoor finishing paint to BHEL specification AA56126 (IS: 2932), when surfaces primed with this paint are coated with 2 coats of finishing paint. 2.0 APPLICATION: The material shall be intended for use as a primer coat in the painting system for protection of steel surfaces against corrosion for outdoor and indoor application on Electrical equipment. Normally, for best performance the surface to be coated shall be ensured free from oil, loose rust/dust etc., followed by blast cleaning to Sa 2 1/2. This shall be followed by application of two coats of the priming so as to achieve dft of 30 microns, min. 3.0 COMPLIANCE WITH NATIONAL STANDARDS: The material shall comply with the requirements of the following national standard and also meet the requirements of this specification. IS:12744 (Part: 1): 2013: Ready Mixed Paint, Air Drying, Red Oxide-Zinc Phosphate Priming-Specification. 4.0 COLOUR: The colour of the material shall be that of red oxide. 5.0 FINISH: Smooth and Matt to Egg shell flat 6.0 FREEDOM FROM DEFECTS: The priming paint shall remain free from defects like hard settling of pigments, thick and hard skinning etc., when kept in closed container and livering (excessive viscosity build up) during its rated shelf life. The dried surface of the coating shall be smooth, uniform, homogenous appearance and shall be free from physical defects like, pinholes, wrinkles, hard particles, blisters, air bubbles etc. 7.0 CHEMICAL COMPOSITION: The paint shall be formulated with anti-corrosive pigments like Red oxide of iron, Zinc phosphate, extenders etc., dispersed in unsaponifiable modified alkyd medium in solvent,					
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thinner and drier in suitable proportions so as to satisfy the requirements prescribed in this specification. The raw materials used in the formulation of the priming paint shall be of good quality and conform to following Indian standards.

- | | |
|----------------------------------|-------------|
| a) Zinc Phosphate | : IS: 10897 |
| b) Red Oxide of Iron | : IS: 44 |
| c) Oil or turpentine | |
| d) Petroleum hydrocarbon solvent | : IS: 1745 |
| e) Liquid drier | : IS: 8766 |

The supplier of the material has to certify that the paint supplied shall be free from lead or its compounds and also meets the legislative requirements of ISO 14001.

8.0 TEST SAMPLES AND TEST METHODS

Tender samples will not be required when once the type approval is given and the supplier concerned declared that the material for which the tender is given of the same quality as the type approved sample.

500ml of thoroughly mixed sample representing lot be drawn from randomly selected drum and shall be sent to laboratory for testing. The testing shall be done in accordance with relevant part and section of IS: 101 or as specified in this specification.

9.0 PROPERTIES:

9.1. Drying Time

- | | |
|-------------|---------------------|
| Surface dry | : 2 hours, maximum |
| Hard dry | : 18 hours, maximum |

9.2. Consistency

Smooth and uniform and suitable for brushing without appreciable drag on the brush or spraying as required.

Efflux time by Ford cup No. 4, at $27 \pm 20^\circ\text{C}$: 80 - 120 secs.

9.3. Mass per Ten Litres:

13.5 kgs. $\pm 3\%$

9.4. Flash Point:

30°C , min

9.5. Scratch Hardness:

When tested on coated panels air dried for 48 hrs and tested at a load of 1500g on steel panels and 1000g on tinned mild steel panels, no such scratch as to show the bare metal shall be produced.

9.6. Flexibility and Adhesion:

When tested on coated panels air dried for 48 hrs, no visible damage or detachment of coating shall take place and passes the test when tested by cylindrical bend test method.



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9.7. Resistance to Salt Spray:

When tested as per test method of IS 2074, the test panel prepared from the followed by air drying for 48 hrs, material shall show no sign of corrosion after continuous exposure for 96 hrs, in salt spray cabinet.

9.8. Protection against Corrosion under Conditions of Condensations:

The coated panels air dried for 48 hrs, are subjected to continuous exposure, shall show no sign of deterioration of the coating & metal surface show no sign of corrosion.

9.9. COMPOSITION:

9.9.1. Pigment Content: $50 \pm 5\%$ by mass

9.9.2. Zinc Phosphate (IS 10897): 16.0%, min. by mass on pigment

9.9.3. Red Oxide AS Fe_2O_3 (IS 44): 50.0%, min. by mass on pigment

10.0 VOLUME SOLIDS: 40.0% min. (Pigment + Binder) by weight.

11.0 COMPATIBILITY TEST WITH COATS:

The primer paint shall be fully compatible with top coats like, High quality full glossy finishing paint conforming to AA56126 /IS 2932, when tested as per method prescribed in Annexure-1.

12.0 WET OPACITY (FOR INFORMATION ONLY):

Theoretical coverage: 10 sq.m / litre @ dft: 35 microns.

13.0 TEST CERTIFICATES:

Unless otherwise stated, three copies of test certificates shall be supplied along with each consignment.

In addition, the supplier shall ensure to enclose one copy of the test certificates along with their despatch documents to facilitate quick clearance of the material.

The test certificates shall bear the following information:

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BHEL order:

Supplier's Name and address

Identification/Trade Mark, if any.

Batch No/Lot No.:

Date of Manufacture and Expiry.

Lot Quantity:

Test results of clause 7.0 to 12.0.

Special Instructions, if any.

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14.0 KEEPING PROPERTY:

When the material stored in a covered dry place in the original sealed container at under ambient conditions, the same shall retain the properties prescribed in this specification for a period of at least 12 months after the date of manufacture, which shall not be subsequent to the date of placing the order and not earlier than one month of the scheduled delivery date mentioned in BHEL order.

15.0 ENVIRONMENTAL REQUIREMENTS:

The supplier shall furnish Material Safety Data Sheet (MSDS) covering all information relating to human safety and environmental impacts of the hazardous materials particularly during their transportation, storage, handling and disposal along with each supply. Each container shall be marked with corresponding symbol and minimum worded cautionary notice for flammable / corrosive / toxic / harmful / irritant and oxidizing etc. as applicable.

16.0 PACKING & MARKING:

Unless otherwise stated, the paint shall be supplied in packing size as specified in BHEL order and shall be packed in air tight leak -proof metal container conforming to IS: 1407 and IS: 2552. Each container shall bear following information neatly written or pasted on the container.

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BHEL order:

Name of supplier and address:

Identification/Trade Mark, if any.

Quantity of material:

Batch No/Lot No.:

Date of Manufacture and Expiry.

Special Instructions, if any:

17.0 REFERRED STANDARDS (Latest Publications Including Amendments)

- | | |
|-----------------|----------------|
| 1) IS: 44 | 2) IS : 101 |
| 3) IS : 1407 | 4) IS : 1745 |
| 5) IS : 2074 | 6) IS : 2552 |
| 7) IS: 2932 | 8) IS: 10897 |
| 9) IS : 12744 | 10) IS : 13262 |
| 11) ASTM D 3359 | 12) AA56126 |
| 13) AA56701 | 14) IS: 8766 |



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ANNEXURE-I

TEST FOR COMPATIBILITY OF ANTI-CORROSION PRIMING PAINT (AA 56101) WITH TOP COATS OF FINISHING PAINT (AA56126/IS: 2932)

The compatibility of anti- corrosive priming paint conforming to AA 56101 with top coat finishing paint to AA 56126/IS: 2932, shall be checked by Cross-cut tape adhesion method prescribed in ASTM D 3359. The adhesion tape used shall conform to IS: 13262 or any other tape bearing ISI mark having sufficient adhesion strength.

A Steel plate of size 150x100mm is taken for testing compatibility. Thoroughly clean the plate with emery to make it free from rust, oil, dust etc. Apply two coats of homogenized anticorrosive priming paint after allowing coating to dry over night before, application of next coat.

Apply two coats of top coat finishing paint evenly covering plate completely. Allow the coatings, to dry for 48 hours at ambient conditions before performing the cross cut adhesion test.

Test method B shall be followed and the acceptance criteria shall be 4 B, i.e., small flakes of the coating material are detached at intersections and less than 5% of the area is affected