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CORPORATE PURCHASE SPECIFICATION

AA 561 26

Rev No. 05

PREFACE SHEET

HIGH QUALITY FULL GLOSSY OUT DOOR FINISHING PAINT

FOR INTERNAL USE ONLY
REMOVE THIS PREFACE BEFORE ISSUE TO SUPPLIERS

Comparable Standards

- 1. INDIAN IS : 2932-2003

Suggested/Probable Suppliers and Grades:

- 1. M/s. Shalimar Paints Superlac High gloss Synthetic Enamel
- 2. M/s. Asian Paints HQFGPC 1458 Enamel
- 3. M/s. Berger Paints Luxel High gloss Synthetic Enamel
- 4. M/s. Goodlass Nerolac

User Plant References:

- 1. BHOPAL PS-56131 A
- 2. HEER, HARDWAR 504,401
- 3. HYDERABAD HY 021 11 90
- 4. TIRUCHY IS : 2932, Type 1

Revisions :
Ref: CL 34.11.39 of MOM of MRC (CPO)

APPROVED :
INTERPLANT MATERIAL RATIONALISATION
COMMITTEE-MRC (CPO)

Rev. No. 05	Amd.No.	Reaffirmed	Prepared	Issued	Dt. of 1st Issue
Dt. 15.11.2005	Dt :	Year :	BHOPAL	Corp. R&D	

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HIGH QUALITY FULL GLOSSY OUR DOOR FINISHING PAINT

1.0 GENERAL

This specification governs the quality requirements of synthetic resin, full gloss high quality air drying finishing paint.

The paint shall be capable of being brushed sprayed or flow-coated by thinnin suitable with white spirit conforming to BHEL specification AA 56701.

The paint shall be compatible on surface primed with any alkyd based prime conforming to IS : 2074, IS:12744 and BHEL specification AA 56101. An corrosive priming paint.

The compatibility shall be checked by cross-cut Adhesion test detailed in Annexure-1.

2.0 APPLICATION

Suitable for application on the surface of outdoor equipment.

3.0 COLOUR

As specified on BHEL order.

4.0 COMPLIANCE WITH NATIONAL STANDARDS

The material shall comply with the requirements of the following national standards and also meet the requirements of this specification.

IS:2932 - 2003 : SPECIFICATION FOR ENAMEL SYNTHETIC, EXTERIOR;
(a) UNDER COATING (a) FINISHING

with additional requirements of compatibility with priming paint to IS:2074/IS:12744.

5.0 FINISH: Smooth and full glossy.

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Revisions :			APPROVED :		
Ref: CL 341139 of MOM of MRC (CPO)			INTERPLANT MATERIAL RATIONALISATION COMMITTEE-MRC (CPO)		
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6.0 FREEDOM FROM DEFECTS:

The paint shall remain free from defects like hard settling of pigments, skinning when kept in a closed container and livering (excessive viscosity build up) during its rated shelf life.

The dried paint shall be free from defects like bittyness, floating of pigments, surface haze, orange peeling, colour fading, wrinkles, etc.

7.0 CHEMICAL COMPOSITION

7.1 Pigments and Total Solids

Only non-chalking rutile titanium dioxide shall be used as a white pigment and any other pigment used shall be light-fast. Extenders shall not be used in general. If absolutely necessary, good quality extenders upto a maximum of 5 percent may be used.

The total volume of solids in the paint shall not be less than 35%. Pthalic Anhydride content shall be 20% min. and shall be certified by the supplier.

7.2 Binder

The binder shall be long oil synthetic alkyd resin free from natural rosins and their derivatives or their modification in any form when tested in accordance with IS:101, part 9, sec 2. The composition of the binder as determined by infra-red septrography shall be strictly adhered to the type approved sample in bulk supply.

8.0 TEST SAMPLES

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

Representative samples of the material shall be drawn and treated as prescribed in IS: 101.

9.0 PROPERTIES

Unless otherwise specified, when tested in accordance with IS:101 and IS:2932, the test samples shall show the following properties:

9.1 Drying Time

- Surface dry : 4 hours, max.
- Hard dry : 12 hours, max.
- Tack free : 24 hours, max.

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- 9.2 **Consistency**
Shall be smooth, uniform and suitable for brushing.
80 to 120 seconds at $27 \pm 2^\circ\text{C}$ when measured with Ford cup No. 4.
- 9.3 **Gloss 60 deg (Type Test)**
Above 71.
- 9.4 **Accelerated Storage Stability Test, 60°C , 96 hours (IS:2932 Annexure F)**
Shall pass the test.
- 9.5 **Scratch Hardness after 48 hours of air drying**
The test shall be carried out with 1000 g.
No scratch as to show base metal.
- 9.6 **Flash Point**
Not below 30°C
- 9.7 **Weight**
9.0 kg per 10 litres, min
However it shall be within $\pm 3\%$ of the approved sample of each colour.
- 9.8 **Accelerated Weathering Test**
After 21 days exposure under accelerated weathering conditions, the film shall not show any sign of general breakdown, and retain a gloss of 40% of original value.
- 9.9 **Resistance To Acid (IS:2932 Annexure D)**
The film shall not show signs of disintegration or change of colour. The loss of gloss shall not be more than 50% of the original gloss.
- 9.10 **Resistance To Alkali (IS:2932 Annexure E)**
The film shall not show signs of disintegration or change of colour. The loss of gloss shall not be more than 50% of the original gloss.

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9.11 Flexibility and Adhesion

No visible damage or detachment of the film after 96 hours air-drying at room temperature followed by cooling for 5 hours at 0°C.

The test shall be carried out on the cold film, care being taken to ensure that the temperature of the panel and the rods does not exceed 0°C during the bending operation.

9.12 Fineness of Grind

Not more than 15 microns.

9.13 Compatibility with Primer to AA 56101 (IS:2074/IS:12744)

Shall pass the test, when tested as per Annexure I.

10.0 TYPE APPROVAL

10.1 Sample

Sample for type approval testing shall be accepted only from those manufacturer whose manufacturing and testing facilities are considered satisfactory to ensure continuous supply of good product.

10.2 Type Test

Outdoor Durability Test (IS:2932)

Painted panels prepared and tested as per Appendix C as per C-3 IS:2932 shall satisfy the requirements laid down in the standard for at least 12 months after painting.

11.0 TEST CERTIFICATES

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

In addition, the supplier shall ensure to enclose one copy of test certificate along with their dispatch documents / packing list to facilitate quick clearance of the material. The test certificates shall bear the following details:

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- | | |
|---------------------------------|--|
| 1. AA 56126 (Rev.No.05) | High Quality Full Glossy outdoor Finishing paint |
| 2. Colour: | 3. Finish |
| 4. Freedom from defects | 5. Chemical composition |
| 6. Consistency | 7. Spreading capacity |
| 8. Mass per 10 liters | 9. Drying / Curing Time |
| 10. Flash Point | 11. Lead Content |
| 12. Scratch Hardness | 13. Flexibility and adhesion |
| 14. Compatibility | 15. Date of manufacture & Expiry |
| 16. Accelerated weathering test | 17. Fineness of grind |
| 18. Resistance to acid | 19. Resistance to alkali |
| 20. Accelerated storage test | |

12.0 KEEPING PROPERTY:

When stored under cover in a dry place in the original sealed container at "normal temperature conditions", the material shall retain the properties prescribed in the specification for a period of not less than 12 months after the date of manufacture which shall not be earlier than one month from the scheduled delivery date mentioned in BHEL order.

13.0 PACKING & MARKING:

Unless otherwise stated, the paint shall be packed in 20 litre/ 4 litre steel drums conforming to IS:2552 & IS:1407. Each container shall bear the following information:

- | | |
|------------------------------------|--|
| 1. AA 56126 | High Quality Full Glossy Outdoor Finishing Paint |
| 2. BHEL Order No. | |
| 3. Suppliers Name | |
| 4. Type no./ Brand name / Shade | |
| 5. Date of manufacture / Batch no. | |
| 6. Expiry date | |
| 7. Special Instructions (if any) | |
| 8. Quantity | |

14.0 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 alongwith 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.

15.0 REFERRED STANDARDS (Latest Publications Including Amendments):

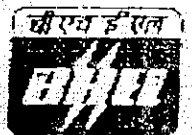
- | | | | | |
|-----------------|-------------|-------------|-------------|--------------|
| 1. IS : 101 | 2. IS:1407 | 3. IS:2074 | 4. IS:2552 | 5. IS:2932 |
| 6. IS:12744 | 7. IS 13262 | 8. AA 56101 | 9. AA 56126 | 10. AA 56701 |
| 11. ASTM D 3359 | | | | |

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ANNEXURE -1 (Cl. 1 & 9.13)

**TEST FOR COMPATIBILITY OF FINISHING PAINT
(AA 561 26) WITH PRIMER (AA 561 01)**

The compatibility of finishing paint to AA 561 26 with primer AA 561 01 shall be checked by tape adhesion test generally in line with ASTM D-3359 except for the following changes as per performance requirement of the paint system.

The adhesion tape used shall be transparent cellulose tape conforming to IS:13262. Tape bearing BIS Certification mark is also acceptable.

2 coats of finishing paint to AA 561 26 are to be applied over 2 coats of primer to AA 561 01 on cleaned and emiered steel plate of size 150x100 mm. Each primer finish coat to be applied after 24 hrs. drying of previous coat without any roughening by emery.

Adhesion test shall be performed after 48 hours of air drying of final coat. Test panels are to be dried at ambient temperature.

Method - B shall be followed and acceptance criteria will be 4B Viz. Small flakes of the coating are detached at intersections and less than 5% of area is effected.