



CORPORATE PURCHASING SPECIFICATION

AA56109

Rev No. 03

PAGE 1 of 4

CHEMICAL RESISTANT HIGH BUILD EPOXIDE PRIMING PAINT

1.0 GENERAL:

This specification governs the quality requirements of two pack High Solids Epoxide Priming Paint suitable for application by brushing or spraying.

2.0 APPLICATION:

Used as primer for "Polyurethane Finishing Paint" conforming to BHEL specification AA56142 to provide protection against chemical atmosphere.

3.0 COMPLIANCE WITH NATIONAL STANDARDS:

There is no Indian standard covering this material. However, assistance has been derived from IS: 13238 & IS: 14209.

4.0 COLOUR:

As specified in BHEL order.

5.0 FINISH:

Smooth and matt or semi-gloss.

6.0 FREEDOM FROM DEFECTS:

The paint shall remain free from defects like hard setting of pigments, skinning and livering (excessive viscosity build up) during its rated shelf life.

7.0 CHEMICAL COMPOSITION:

The material shall be based on two component epoxy system suitably pigmented base and accelerator. Adequate quantity of inhibitive pigments like Zinc chlorite, zinc phosphate, etc., (Main pigment in total pigment shall be 95%, min.) shall be used. The mixing ratio of the base and accelerator shall be as per supplier's recommendation or as per type approved sample.

The type and content of the binding material as determined by infra-red spectrography or thin layer chromatography or any other suitable method shall have the weight per epoxy equivalent of 350-500 on non-volatile vehicle concentration tested as per IS:14209 or strictly adhered to the "Type Approved Sample".

8.0 TEST SAMPLES:

Tender samples will not be required when once the type approval (clause 11.0) 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 tested as prescribed in IS:101.

Revisions:

Cl.34.11.37 of MOM of MRC-CPO

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

Rev No.03

Amd No.

Reaffirmed

Prepared

Issued

Dt. of 1st Issue

Dt:15-11-2005

Dt:

Year:2014

HEP, Bhopal

Corp.R&D

January, 1991

CORPORATE PURCHASING SPECIFICATION



9.0 PROPERTIES:

When tested in accordance with the relevant clauses and parts of IS:101, IS:2074, defence specification 1053 and appendix 1 & 2 of this specification, the test samples shall show the following properties:

9.1 Drying Time

Surface dry : 2 hours, maximum
Hard dry : 16 hours, maximum
Intercoat interval : 16 hours, maximum

9.2 Consistency:

Smooth uniform and suitable for brush or spray applications

9.3 Fineness of grind:

5 minimum of Hegman's gauge.

9.4 Pressure Test:

The metal surface shall not be rendered visible when the two test pieces are separated after the test was carried out.

Note: Pressure test shall be carried out after 7 days curing at room temperature.

9.5 Scratch Hardness:

After the film is cured for 7 days under ambient conditions and tested on a MS panel under a load of 2000 gms, no such scratch as to show the bare metal shall be produced.

9.6 Flexibility and adhesion test

The film shall not show sing of damage or detachment or cracking when tested after 7 days curing under ambient conditions by Erichsen Cupping Test upto 8 mm.

9.7 Weight:

14 ± 0.5 kg 10 litres of mixed paint

9.8 Impact Test (Defence specification 1053)

The film shall not show any sign of damage.

9.9 Solid Content

85 %, minimum by mass

9.10 Flash Point

Not below 21°C.

9.11 Chemical Resistance Test (APPENDIX - 1)

Panels prepared and tested in accordance with Appendix 1 to this specification, when immersed in the liquids at the temperature, time and concentration specified below shall not show any sign of deterioration.

- 10% Nitric acid by volume at 60 ± 2°C for 12 hours
- 20% Sulphuric acid by volume at 60 ± 2°C for 8 hours
- 10% Hydrochloric acid by volume at 60 ± 2°C for 24 hours
- 25% Sodium hydroxide by weight at 60 ± 2°C for 12 hours
- Petrol at room temperature for 24 hours
- Methylethyl ketone at room temperature for 24 hours



CORPORATE PURCHASING SPECIFICATION

AA56109

Rev No.03

PAGE 3 of 4

9.12 Pot life (APPENDIX - 2)

4 to 8 hours

10.0 SAFETY PRECAUTIONS:

The paint is likely to cause irritation to the skin. This may transpire into inflammation, swelling, rash of pustules on the hands, arms and occasionally on the whole body.

Following precautions should be observed while handling this material:

1. Work place and storage rooms should be adequately ventilated.
2. Before starting the work, hands should be washed with soap and water and good barrier cream applied.
3. Maximum care should be taken to avoid splashes on the skin.
4. Splashes on the skin should be immediately washed with soap and water.
5. After the work, hands, arms and face should be washed with soap and water followed by thorough drying with a clean towel.
6. Operator should use adequate safety appliances like mask, eye protector, etc.

11.0 TYPE APPROVAL:

11.1 Samples:

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

11.2 Type Tests:

Resistance to salt Spray:

The panel prepared from the material shall show no sign of corrosion after continuous exposure for 1000 hours in salt spray cabinet.

12.0 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 send one copy of test certificate along with the dispatch documents to facilitate quick clearance of the materials.

BHEL order No.:

AA56109, Rev03: CHEMICAL RESISTANT HIGH BUILD EPOXIDE PRIMING PAINT

Manufacturers/suppliers Name:

Trade name/mark, if any:

Batch/Lot No.;

Date manufacture & expiry:

Test results of clause 7.0 and 9.0

13.0 KEEPING PROPERTY

When stored in covered dry place in the original sealed containers under normal temperature conditions, the material shall retain the properties prescribed in this specification for a period of 12 months after the date of manufacture which shall be subsequent to the date of placement of BHEL order.

CORPORATE PURCHASING SPECIFICATION



14.0 PACKING AND MARKING

Unless otherwise stated, base and hardener shall be packed separately in steel containers of approximate capacities. Each container shall bear the following information:

AA56109: CHEMICAL RESISTANT HIGH BUILD EPOXIDE PRIMING PAINT

BHEL Order No.:

Manufacturers/ Supplier's name:

Trade name / mark, if any:

Batch/Lot No.:

Quantity supplied:

Date of manufacture & expiry: (The material shall have minimum 6 months shelf life at the time of supply)

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 REFERRED STANDARDS (Latest Publications Including Amendments):

1) IS:101 2) IS: 2074 3) IS:13238 4) IS:14209 5) AA56142 6) DEF:1053

APPENDIX - 1

CHEMICAL RESISTANT TEST (CLAUSE 9.11)

15 x 100 mm mild steel panels shall be first cleaned from rust by rubbing with abrasive paper and suitable solvent.

One coat of the chromate primer is applied over the cleaned panel on both sides. After 24 hours of air drying one coat of the finish paint is applied. After 24 hours another coat of the finish is applied and dried at 60 to 65°C for 2 hours or alternatively cured for 7 days at room temperature. The sides of the panel shall be protected with wax coating.

The painted steel shall be tested by immersing in respective reagent solution in a closed desiccator and any damaging effect to the film is observed. Discolouration, softening and detachment of the film is not acceptable.

APPENDIX - 2

DETERMINATION OF POT LIFE (CLAUSE 9.12)

About 100 ml of the mixed paint prepared by mixing the base and accelerator in the recommended proportions is taken in a beaker. The paint shall be such that it should be usable by brush under a specified pot life of 6-12 hours at room temperature.

In order to see if the paint has jelled or not, a small quantity of the mixed paint is dissolved in the recommended thinner. It should not dissolve if the paint has jelled and vice-versa.