

## Painting Procedure for Firefighting Piping Network



This method of statement covers the painting procedure of firefighting and fire protection pipe, fittings and accessories for any kind of construction project.

The pipe painting procedure defines the method used to ensure the painting has been carried out as per contract specifications and industry best practices. It gives details of how the work will be carried out and what health, safety and quality requirements and controls are necessary.

Scope of work includes all horizontal & vertical installations of pipe network for firefighting & fire protection system inside the building using various types of materials as per the project specifications.

### **Project Roles & Responsibilities**

**Project Manager (PM) shall be responsible overall to complete all the works as follows.**

1. Manages day to day operational aspects of a project and scope.
2. Creates and executes project work plans and revise as appropriate to meet changing needs and programs.
3. Reviews deliverables prepared by team before passing to client.
4. Coordinating with the client and consultant on technical aspects and Attending meetings.
5. Sets and manages client expectations.
6. Manages QA/QC programs are effectively established.
7. Manages project budget.

**Site Manager (SM) shall be responsible overall for the day-to-day activities in site & reports to the project manager on the progress.**

1. To set out the site and organize facilities.
2. To plan projects and ensure that they meet agreed specifications and Timescales.
3. Checking and preparing site reports, design and drawings.
4. Problem solving.
5. Maintaining quality control procedures.

**Project Engineer (PE) shall be responsible for but not limited to the following important activities:**

1. Ensure that all the preparation and application works are carried out according to the contract specification and manufacturer's datasheet(s).
2. To ensure that the progress of works is carried out according to the planned program and as per the approved Method Statement in the allocated areas.
3. Ensure that all the equipment & materials required in executing the works are available according to the planned construction program.
4. To co-ordinate with the Main Contractor's MEP coordinator and Safety Officer for safe & proper execution of the work in accordance with the Risk Assessment.
5. Coordinate with the civil team for any area preparation, access & clearance.

**HSE Officer shall be responsible for but not limited to the following important activities:**

1. To ensure the Health & Safety of the Site Personnel.
2. Ensuring that PPE are available with the Site Personnel.
3. Good housekeeping in site.
4. Environmental concerns are addressed.
5. Responsible for the implementation & assurance of JSEA.

**QA/QC Engineers shall be responsible for but not limited to the following important activities:**

1. Inspecting the materials on site as per the approved Material Submittals prior to the installation in site & raising MIR to the Consultant for Material approval.
2. Doing inspections for the installation as per the approved drawings, test plans and checklists.
3. Preparing Test forms for testing on site and updating results accomplished.

4. Issuing Inspection Request to the Consultant for Installation approval before 24 hrs of the actual inspection scheduled time.
5. Responsible for the assurance of Quality Control, Method Statement, Inspection & Test Plan.
6. Controlling the shop drawings flow to site.

**Site Supervisor (SS) shall be responsible for but not limited to the following important activities:**

1. To guide & control the Foremen, Charge hands & Tradesmen.
2. To ensure that the work is done as per the approved shop drawing(s).
3. To report to the Project Engineer.

**Material Transportation:**

Paint drums will be transported to the site by the supplier.

Care must be taken to ensure that the paint drums should not overhang on the vehicle bed.

**Paint Handling:**

Paint drums should not be dropped onto hard surfaces and should not be dragged along the ground. Where possible, the loading & unloading of drums should be carried out by hand along with wheel trolleys.

**Paint Storage:**

- To ensure that deterioration of the paint does not occur during storage, it is imperative that the following recommendations are adhered To:
- Storage only in closed/ sealed cans.
- If possible turn the can upside down every 3 months to reduce the amount of settlement.
- Do not exceed storage temperatures of approx. 40-45degree C.
- Store the paint in a sheltered but well ventilated area.

**Inspection of Materials in Store:**

- Notify the logistic department Engineer upon delivery of materials at site.
- All Materials shall comply with the approved material submittal.
- Upon the receipt of materials on site, these shall be inspected by the QC Engineer / Inspector to ensure correctness of material as per the approved submittals and quantities.
- Ensure that the materials are handled properly, and protected against dust, dirt & foreign matter.

- A MIR shall be prepared by QA / QC Engineer/ Inspector for submission to the Consultant for review and acceptance.
- Materials not complying with the PD or unusable or damaged will be placed in a quarantined area and should be labelled clearly to make sure that these materials were replaced by the manufacturer.

### **Health & Safety Requirements**

- All works must be carried out according to method statement and risk assessment.
- All chemicals must be used, storage & disposal according to MATERIAL SAFETY DATA SHEET (MSDS) requirements.
- MSDS copy shall be distributed in the working area, storage area and to the SAFETY DEPARTMENT.
- Appropriate PPE must be used as required. (Please refer section 10).
- All operatives must be aware about chemical hazards.
- Trained & competent persons only allowed to the job.
- Proper supervision is required.
- Fire extinguisher must be provided.
- Substitute the extremely hazardous materials with less hazardous one.
- Mop up solvent spills and dispose daily of paint rags, with care.
- Emergency/ COSHH cards to be posted.
- Ensure that good ventilation exist so that no build-up of vapors ensues and the paint and solvent cans are closed when painting operations have stopped.
- No naked flames, lighted cigarettes, motors, electrical equipment, electrical switches, torches, etc. should be allowed in the vicinity of painting preparation.

### **The minimum Personal Protective Equipment's (PPE) are:**

- Hard helmet
- Safety shoes
- Safety goggles / gloves
- Reflective Safety jacket
- Suitable Nose Mask

### **Preparation for Pipes Painting Activity**

All material, tools and testing equipment's and consumables along with sufficient manpower shall be arranged to carry out the work.

The works shall be executed in accordance with the following methodology and sequence:

Ensure that the approved materials are available to carry out the work, as per the approved material submittal & contract specification.

Physical verification of materials will be carried out for any damages prior taking from stores.

Prior to commencement of work, areas and access will be inspected to confirm that site is ready to commence the work, as per approved drawings.

All items not to be painted shall be suitably covered before any surface preparation is initiated to prevent damages.

Oil and grease to be removed by emulsion cleaning. Remove salts loose paints and other impurities from the surface.

Painting must not take place in the following conditions:-

1. Surface are moist, greasy or may become so before application of the first Coat of paint (primer).
2. Surface temperatures are less than 3 degree centigrade above dew point or the relative humidity is higher than 85%.
3. Paint application/ drying takes place nearby.

Before painting clean the pipes by wire brushing and ensure that pipe surface is clean and dry.

### **Painting Methodology**

Ensure that painting is carried out for surface preparation in the following sequence:-

- 2 coats primer
- 2 coats finish paint

### **Coating:**

- Each coat shall be applied uniformly over the entire surface.
- Holidays, run, sags, and drips shall be avoided. If they occur, they shall be removed and the surface recoated.
- Each coat shall be allowed to dry for the time specified by manufacturer before application of any succeeding coat.
- Any primer coat exposed to excess humidity or rain before drying shall be permitted to dry and the damaged area of primer shall be removed and the surface again prepared and primed.
- The time interval between applications of coats must not exceed that specified by the manufacturer.
- Coatings shall be continuous, i.e. free of pin holes, voids, bubbles and other defects.

**Application of coating system for galvanized steel:**

1. Apply a coat of two components Epoxy Paint. Allow to dry for minimum 2-3 Hours (20 degree centigrade), 1 hour (40degree C) may be diluted 5-10% with Thinner.
2. Apply 1st coat of Maestro Gloss Enamel by conventional spray and allow to dry for min. 4-5 hrs 40 degree C. Maybe diluted 5% with Thinner.
3. Apply final coat of Maestro Gloss Enamel as mentioned above. Allow to dry for min. 4-5 hrs.
4. Where application is to be carried out by brush, brushes shall be of a type and quality which permit proper application of the material.
5. No extending handles shall be used on brushes. Paint shall be worked into all corners and crevices.
6. When coatings are to be applied by roller these shall be of a type and quality which permits proper application of the material. Extension handles of more than 1 metre shall be used.
7. Specified film thickness for coating shall be strictly observed.
8. Film thickness shall be checked with appropriate film thickness gauges furnished by the contractor.

Please find below the parameters:

- PRIMER: Indicated film thickness, dry 50 micron (2 coats). Indicated film thickness, wet 125 microns (2 coats).
- PAINT: Indicated film thickness, dry 30 microns (2 coats). Indicated film thickness, wet 73 microns (2 coats).