

## **PART 1 - GENERAL**

### **1.1 GENERAL REQUIREMENTS**

- .1 Comply with requirements of Division 1.

### **1.2 RELATED SECTIONS**

- .1 Section 05 50 00: Metal Fabrication.
- .2 Section 06 40 00: Architectural Woodwork.
- .3 Section 09 21 16: Gypsum Board Assemblies.
- .4 Mechanical and Electrical Divisions: Prime painting of mechanical and electrical equipment including grilles, panels and cabinets.

### **1.3 REFERENCES**

- .1 Architectural Painting Specifications Manual, Master Painters Institute (MPI).
- .2 Systems and Specifications Manual, SSPC Painting Manual, Volume Two, Society for Protective Coatings (SSPC).
- .3 EPA Test Method for Measuring Total Volatile Organic Compound Content of Consumer Products, Method 24 (for Surface Coatings) - Environmental Protection Agency (EPA).
- .4 National Fire Code of Canada
- .5 Health Canada/Workplace Hazardous Materials Information System (WHMIS).
  - .1 Material Safety Data Sheets (MSDS).

### **1.4 SUBMITTALS**

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit product data and manufacturer's installation/application instructions for each paint and coating product to be used and include product characteristics, performance criteria, finish and limitations.
- .3 Submit WHMIS MSDS - Material Safety Data Sheets in accordance with Section 01 35 29 - Health and Safety Requirements.
- .4 Submit duplicate 200 x 300 mm sample panels of each specified paint or coating in colours, gloss/sheen and textures required to MPI Painting Specification Manual standards.
- .5 Upon completion, submit records of products used. List products in relation to finish system and include the following:
  - .1 Product name, type and use.
  - .2 Manufacturer's product number.
  - .3 Colour numbers.
  - .4 MPI Environmentally Friendly classification system rating.
  - .5 Manufacturer's Material Safety Data Sheets (MSDS).
- .6 Source Quality Control
  - .1 Submittals: submit manufacturer's installation instructions and special handling criteria, installation sequence and cleaning procedures.

### **1.5 CLOSE-OUT SUBMITTALS**

- .1 Provide maintenance data for paints and coatings for incorporation into manual specified in Section 01 78 00 - Closeout Submittals and supplemented as follows.
- .2 Upon completion, submit records of products used. List products in relation to finish system and include the following:
  - .1 Product name, type and use.
  - .2 Manufacturer's product number.
  - .3 Colour numbers.
  - .4 MPI Environmentally Friendly classification system rating.

### **1.6 EXTRA MATERIALS**

- .1 Extra materials from same production run as products installed. Package products with protective covering and identify with descriptive labels. Comply with Section 01 78 00 – Closeout Submittals.
- .2 Submit one four litre can of each type and colour of paint coating. Identify colour and paint type in relation to established colour schedule and finish system. Store where directed.
- .3 Extra materials are not to be used to correct deficiencies.

### **1.7 PERFORMANCE REQUIREMENTS**

- .1 Environmental Performance Requirements:
  - .1 Provide paint products meeting MPI “Environmentally Friendly” E2 rating based on VOC (EPA Method 24) content levels.
  - .2 Green Performance in accordance with MPI Standard GPS-1.

### **1.8 QUALITY ASSURANCE**

- .1 Qualifications:
  - .1 Conform to latest MPI requirements for exterior painting work including preparation and priming.
  - .2 Materials: in accordance with MPI Painting Specification Manual “Approved Product” listing and from a single manufacturer for each system used.
  - .3 Paint materials such as linseed oil, shellac, and turpentine to be highest quality product of an approved manufacturer listed in MPI Painting Specification Manual and be compatible with other coating materials as required.
  - .4 Retain purchase orders, invoices and documents to prove conformance with noted MPI requirements when requested by Departmental Representative.
  - .5 Standard of Acceptance:
    - .1 Walls: No defects visible from a distance of 1000 mm at 90 degrees to surface.
    - .2 Soffits: No defects visible from floor at 45 degrees to surface when viewed using final lighting source.
    - .3 Final coat to exhibit uniformity of colour and uniformity of sheen across full surface area.

**1.8 QUALITY ASSURANCE (continued)**

- .2 Mock-ups:
  - .1 Construct mock-ups in accordance with Section 01 45 00 - Quality Control.
    - .1 Provide mock-up for evaluation of surface finishes and work.
    - .2 Prepare mock-up designated exterior surface or item to specified requirements, with specified paint or coating, showing selected colours, number of coats, gloss/sheen, textures and quality of work to MPI Architectural Painting Specification Manual standards.
    - .3 Co-ordinate type and location of mock-ups with project requirements. Accepted mock-up will be used as standard for acceptance of painting work. Repaint areas which are not accepted.
    - .4 Do not proceed with remaining work until work, colour, and finish are reviewed and accepted by Departmental Representative
    - .5 Refinish mock-up area as required to produce acceptable work.
    - .6 When accepted, mock-up with painted surface and/or item will demonstrate minimum standard of finish quality and quality of work required for similar on-site painting work.

**1.9 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 – Common Product Requirements.
- .2 Deliver and store materials in original containers, sealed, with labels intact.
- .3 Labels shall clearly indicate:
  - .1 Manufacturer's name and address.
  - .2 Type of paint or coating.
  - .3 Compliance with applicable standard.
  - .4 Colour number in accordance with established colour schedule.
- .4 Remove damaged, opened and rejected materials from site.
- .5 Provide and maintain dry, temperature controlled, secure storage.
- .6 Observe manufacturer's recommendations for storage and handling.
- .7 Store materials and supplies away from heat generating devices.
- .8 Store materials and equipment in a well ventilated area with temperature range 7° C minimum to 30° C maximum.
- .9 Store temperature sensitive products above minimum temperature as recommended by manufacturer.
- .10 Keep areas used for storage, cleaning and preparation, clean and orderly to approval of Departmental Representative. After completion of operations, return areas to clean condition to approval of Departmental Representative.

### 1.9 DELIVERY, STORAGE AND HANDLING (continued)

- .11 Remove paint materials from storage only in quantities required for same day use.
- .12 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling storage, and disposal of hazardous materials.
- .13 Fire Safety Requirements
  - .1 Provide one 9 kg, Type ABC dry chemical fire extinguisher adjacent to storage area.
  - .2 Store oily rags, waste products, empty containers and materials subject to spontaneous combustion in ULC approved, sealed containers and remove from site daily.
  - .3 Handle, store, use and dispose of flammable and combustible materials in accordance with the National Fire Code of Canada.

### 1.10 SITE CONDITIONS

- .1 Heating, Ventilation and Lighting:
  - .1 Ventilate enclosed spaces in accordance Section 01 35 29 – Health and Safety Requirements.
  - .2 Perform painting work when adequate and continuous ventilation and sufficient heating facilities are in place to maintain ambient air and substrate temperatures above 10° C for 24 hours before, during and after paint application until paint has cured sufficiently.
  - .3 Where required, provide continuous ventilation for seven days after completion of application of paint.
  - .4 Coordinate use of ventilation system with Contractor and ensure its operation during and after application of paint as required.
  - .5 Provide temporary ventilating and heating equipment where permanent facilities are not available or supplemental ventilating and heating equipment if ventilation and heating from existing system is inadequate to meet minimum requirements.
  - .6 Perform no painting work unless a minimum lighting level of 323 Lux is provided on surfaces to be painted.
- .2 Temperature, Humidity and Substrate Moisture Content Levels:
  - .1 Unless specifically pre-approved by the specifying body, Paint Inspection Agency and the applied product manufacturer, perform no painting work when:
    - .1 Ambient air and substrate temperatures are below 10 ° C for both interior and exterior work.
    - .2 Substrate temperature is over 32 ° C unless paint is specifically formulated for application at high temperatures.
    - .3 Substrate and ambient air temperatures are expected to fall outside MPI or paint manufacturer's prescribed limits.
    - .4 The relative humidity is above 85% or when the dew point is less than 3 ° C variance between the air/surface temperature.
    - .5 Rain or snow are forecast to occur before paint has thoroughly cured or when it is foggy, misty, raining or snowing at site.

**1.10 SITE CONDITIONS** (continued)

.2 (continued)

- .2 Perform no painting work when the maximum moisture content of the substrate exceeds:
  - .1 12% for concrete block masonry.
  - .2 15% for wood.
  - .3 12% for gypsum board.
- .3 Conduct moisture tests using a properly calibrated electronic moisture meter, except test concrete floors for moisture using a simple "cover patch test".
- .4 Test concrete, masonry and plaster surfaces for alkalinity as required.

.3 Surface and Environmental Conditions

- .1 Apply paint finish only in areas where dust is no longer being generated by related construction operations or when wind or ventilation conditions are such that airborne particles will not affect quality of finished surface.
- .2 Apply paint only to adequately prepared surfaces and to surfaces within moisture limits noted herein.
- .3 Apply paint only when previous coat of paint is dry or adequately cured.

.4 Additional Interior Application Requirements:

- .1 Apply paint finishes only when temperature at location of installation can be satisfactorily maintained within manufacturer's recommendations.
- .2 Apply paint in occupied facilities during silent hours only. Schedule operations such that painted surfaces will have dried and cured sufficiently before occupants are affected.

.5 Additional Exterior Application Requirements:

- .1 Apply paint finishes only when conditions forecast for entire period of application fall within manufacturer's recommendations.
- .2 Do not apply paint when:
  - .1 Temperature is expected to drop below 10° C before paint has thoroughly cured.
  - .2 Substrate and ambient air temperatures are expected to fall outside MPI or paint manufacturer's limits.
  - .3 Surface to be painted is wet, damp or frosted.
- .3 Provide and maintain cover when paint must be applied in damp or cold weather. Heat substrates and surrounding air to comply with temperature and humidity conditions specified by manufacturer. Protect until paint is dry or until weather conditions are suitable.
- .4 Schedule painting operations such that surfaces exposed to direct, intense sunlight are scheduled for completion during early morning.
- .5 Remove paint from areas which have been exposed to freezing, excess humidity, rain, snow or condensation. Prepare surface again and repaint.

**1.11 WASTE MANAGEMENT AND DISPOSAL**

- .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .2 Remove from site and dispose of all packaging materials at appropriate recycling facilities.
- .3 Collect and separate for disposal paper, plastic, polystyrene, corrugated cardboard and packaging material in appropriate on site bins for recycling in accordance with Waste Management Plan (WMP).
- .4 Place materials defined as hazardous or toxic in designated containers.
- .5 Handle and dispose of hazardous materials in accordance with Governmental Authorities.
- .6 Ensure emptied containers are sealed and stored safely.
- .7 Unused paint materials must be disposed of at official hazardous material collections site as approved by Departmental Representative.
- .8 Paint, stain and wood preservative finishes and related materials (thinners, and solvents) are regarded as hazardous products and are subject to regulations for disposal. Information on these controls can be obtained from Governmental Authorities.
- .9 Material which cannot be reused must be treated as hazardous waste and disposed of in an appropriate manner.
- .10 Place materials defined as hazardous or toxic waste, including used sealant and adhesive tubes and containers, in containers or areas designated for hazardous waste.
- .11 To reduce the amount of contaminants entering waterways, sanitary/storm drain systems or into ground follow these procedures:
  - .1 Retain cleaning water for water-based materials to allow sediments to be filtered out.
  - .2 Retain cleaners, thinners, solvents and excess paint and place in designated containers and ensure proper disposal.
  - .3 Return solvent and oil soaked rags used during painting operations for contaminated recovery, proper disposal, or appropriate cleaning and laundering.
  - .4 Dispose of contaminants in approved legal manner in accordance with hazardous waste regulations.
  - .5 Empty paint cans are to be dry prior to disposal or recycling (where available).
- .12 Where paint recycling is available, collect waste paint by type and provide for delivery to recycling or collection facility.

## **PART 2 - PRODUCTS**

### **2.1 MATERIALS**

- .1 Only paint materials listed in the MPI Approved Products List (APL) are acceptable for use on this project.
- .2 Paint materials for paint systems shall be products of a single manufacturer.
- .3 Only qualified products with E2 "Environmentally Friendly" rating are acceptable for use on this project.
- .4 Conform to latest MPI requirements for interior and exterior painting work including preparation and priming.
- .5 Materials (primers, paints, coatings, varnishes, stains, lacquers, fillers, thinners, solvents, etc) in accordance with MPI Architectural Painting Specification Manual "Approved Product" listing.
- .6 Linseed oil, shellac, and turpentine: highest quality product from approved manufacturer listed in MPI Architectural Painting Specification Manual, compatible with other coating materials as required.
- .7 Provide paint products meeting MPI "Environmentally Friendly" E2 rating based on VOC (EPA Method 24) content levels.
- .8 Paints, coatings, solvents, cleaners, and other fluids, to be as follows:
  - .1 Ensure calculation of VOC's does not include water or tinting colourant added at point of sale.
  - .2 Be water based, water soluble with water clean-up.
  - .3 Be non-flammable, biodegradable.
  - .4 Do not contain methylene chloride, chlorinated hydrocarbons, toxic metal pigments.
  - .5 Primer: maximum VOC limit 250 g/L to Standard GS-11.
  - .6 Enamel Finish: maximum VOC limit 150 g/L to Standard GS-11.
  - .7 Paints: maximum VOC limit 150 g/L to Standard GS-11.
- .9 Water-borne surface coatings must not be formulated or manufactured with aromatic solvents, formaldehyde, halogenated solvents, mercury, lead, cadmium, hexavalent chromium or their compounds.
- .10 Water-borne surface coatings and recycled water-borne surface coatings must have a flash point of 61.0 ° C or greater.
- .11 Ensure manufacture and process of both water-borne surface coatings and recycled water-borne surface coatings must be made by a process that does not release:
  - .1 Matter in undiluted production plant effluent generating a 'Biochemical Oxygen Demand' (BOD) in excess of 15 mg/L to a natural watercourse or a sewage treatment facility lacking secondary treatment.
  - .2 Total Suspended Solids (TSS) in undiluted production plant effluent in excess of 15 mg/L to a natural watercourse or a sewage treatment facility lacking secondary treatment.

## 2.1 MATERIALS (continued)

- .12 Water-borne paints and stains, recycled water-borne surface coatings and water borne varnishes must meet a minimum "Environmentally Friendly" E2 rating.
- .13 Recycled water-borne surface coatings to contain 50% post-consumer material by volume.
- .14 Recycled water-borne surface coatings must not contain:
  - .1 Lead in excess of 600.0 ppm weight/weight total solids.
  - .2 Mercury in excess of 50.0 ppm weight/weight total product.
  - .3 Cadmium in excess of 1.0 ppm weight/weight total product.
  - .4 Hexavalent chromium in excess of 3.0 ppm weight/weight total product.
  - .5 Organochlorines or polychlorinated biphenyls (PCBS) in excess of 1.0 ppm weight/weight total product.

## 2.2 COLOURS

- .1 Departmental Representative will provide colour schedule after tenders are awarded.
- .2 Colour schedule will be based on no more than 10 base colours and 5 accent colours.
- .3 Where specific products are available in a restricted range of colours, selection will be based on the limited range.
- .4 Second coat in a three coat system to be tinted slightly lighter colour than top coat to show visible difference between coats.

## 2.3 MIXING AND TINTING

- .1 Perform colour tinting operations prior to delivery of paint to site. On-site tinting of painting materials is allowed only with Departmental Representative's written permission.
- .2 Mix paste, powder or catalyzed paint mixes in strict accordance with manufacturer's written instructions.
- .3 Use and add thinner in accordance with paint manufacturer's recommendations. Do not use kerosene or any such organic solvents to thin water-based paints.
- .4 Thin paint for spraying according in strict accordance with paint manufacturer's instructions. If directions are not on container, obtain instructions in writing from manufacturer and provide copy of instructions to Departmental Representative.
- .5 Re-mix paint in containers prior to and during application to ensure break-up of lumps, complete dispersion of settled pigment, and colour and gloss uniformity.



## 2.4 GLOSS / SHEEN RATINGS

- .1 Paint gloss shall be defined as the sheen rating of applied paint, in accordance with the following values:

Gloss Level	Gloss @ 60°	Sheen @ 85°
G1 – matte finish (flat)	0 to 5	max. 10
G2 - velvet finish	0 to 10	10 to 35
G3 - eggshell finish	10 to 25	10 to 35
G4 - satin finish	20 to 35	min. 35
G5 - semi-gloss	35 to 70	
G6 - gloss	0 to 85	
G7 - high gloss finish	> 85	

- .2 Gloss level ratings of painted surfaces shall be as specified herein.

## 2.5 INTERIOR PAINTING SYSTEMS

- .1 Concrete Vertical Surfaces  
.1 INT 3.1M - Institutional low odour/low VOC, semi-gloss finish.
- .2 Concrete Horizontal Surfaces: floors  
.1 INT 3.2G - Waterborne concrete floor sealer.  
.2 INT 3.2H - Late traffic marking.
- .3 Concrete Masonry Units: smooth face concrete block  
.1 INT 4.2E - Institutional low odour/low VOC, eggshell finish.
- .4 Structural Steel and Metal Fabrications: columns, beams, joists, etc.  
.1 INT 5.1S - Institutional low odour/low VOC, semi-gloss finish.
- .5 Steel - High Heat: (boilers, furnaces, heat exchangers, breeching, pipes, flues, stacks, etc., with temperature range as noted)  
.1 INT 5.2D - High heat resistant coating, maximum 593 ° C.
- .6 Galvanized Metal: doors, frames, misc. steel, pipes, overhead decking, ducts, etc.  
.1 INT 5.3N - Institutional low odour/low VOC, semi-gloss finish.
- .7 Copper:  
.1 INT 5.5G - Institutional low odour/low VOC, semi-gloss finish.
- .8 Wood paneling and casework: partitions, panels, shelving, millwork.  
.1 INT 6.4J - Polyurethane varnish, clear, satin finish.  
.2 INT 6.4P - Fire retardant, pigmented (plywood equipment back boards).
- .10 Plaster and Gypsum Board: gypsum wallboard, drywall, "sheet rock type material", etc., and textured finishes  
.1 INT 9.2M - Institutional low odour/low VOC, eggshell finish.
- .11 Canvas and Cotton Coverings:  
.1 INT 10.1D - Institutional low odour/low VOC, G5 finish.
- .12 Bituminous Coated Surfaces: cast iron pipe, concrete, etc.  
.1 INT 10.2B - Alkyd G5 (semi-gloss) finish.

## **2.6 EXTERIOR PAINTING SYSTEMS**

- .1 Asphalt Surfaces: zone traffic markings for drive and parking areas, etc.
  - .1 EXT2.1A – Latex zone traffic marking finish.
- .2 Structural Steel and Metal Fabrications:
  - .1 EXT 5.1D – Alkyd G5 (semi-gloss) finish.
- .3 Steel - High Heat: heat exchangers, breeching, pipes, flues, stacks, etc., with temperature range as noted
  - .1 EXT 5.2C - Inorganic zinc rich coating, maximum 400 ° C
- .4 Galvanized Metal: not chromate passivated
  - .1 EXT 5.3D – Pigmented polyurethane finish for use in high contact/high traffic areas.

## **PART 3 - EXECUTION**

### **3.1 MANUFACTURER'S INSTRUCTIONS**

- .1 Manufacturer's Instructions: comply with manufacturer's written recommendations, including product technical bulletins, handling, storage and installation instructions, and datasheets.

### **3.2 GENERAL**

- .1 Perform preparation and operations for exterior painting in accordance with MPI Painting Specifications Manual except where specified otherwise.
- .2 Apply paint materials in accordance with paint manufacturer's written application instructions.

### **3.3 EXAMINATION**

- .1 Investigate substrates for problems related to proper and complete preparation of surfaces to be painted. Report to Departmental Representative damages, defects, unsatisfactory or unfavourable conditions before proceeding with work.
- .2 Conduct moisture testing of surfaces to be painted using a properly calibrated electronic moisture meter, except test concrete floors for moisture using a simple "cover patch test" and report findings to Departmental Representative. Do not proceed with work until conditions fall within acceptable range as recommended by manufacturer.
- .3 Maximum moisture content as follows:
  - .1 Stucco, Plaster and Gypsum Board: 12%.
  - .2 Concrete: 12%.
  - .3 Clay and Concrete Block/Brick: 12%.
  - .4 Wood: 15%.

### **3.4 PROTECTION**

- .1 Protect existing building surfaces and adjacent structures from paint spatters, markings and other damage by suitable non-staining covers or masking. If damaged, clean and restore such surfaces as directed by Departmental Representative.
- .2 Protect items that are permanently attached such as Fire Labels on doors and frames.

**3.4 PROTECTION (continued)**

- .3 Protect factory finished products and equipment.
- .4 Protect passing pedestrians, building occupants and general public in and about the building.
- .5 Removal of electrical cover plates, light fixtures, surface hardware on doors, bath accessories and other surface mounted equipment, fittings and fastenings shall be done prior to undertaking any painting operations. Items shall be securely stored and re-installed after painting is completed.
- .6 Move and cover furniture and portable equipment as necessary to carry out painting operations. Replace as painting operations progress.
- .7 As painting operations progress, place "WET PAINT" signs in occupied areas to approval of Departmental Representative.

**3.5 CLEANING AND PREPARATION**

- .1 Perform preparation and operations for interior and exterior painting in accordance with MPI Architectural Painting Specification Manual Repainting requirements except where otherwise specified.
- .2 Apply paint materials in accordance with paint manufacturer's written application instructions.
- .3 Clean and prepare surfaces in accordance with MPI Painting Specification Manual requirements. Refer to MPI Manual in regard to specific requirements and as follows:
  - .1 Remove dust, dirt, and other surface debris by vacuuming, wiping with dry, clean cloths.
  - .2 Wash surfaces with a biodegradable detergent and clean warm water using a stiff bristle brush to remove dirt, oil and other surface contaminants.
  - .3 Rinse scrubbed surfaces with clean water until foreign matter is flushed from surface.
  - .4 Allow surfaces to drain completely and allow to dry thoroughly. Allow sufficient drying time and test surfaces using electronic moisture meter before commencing work.
  - .5 Use water-based cleaners in place of organic solvents where surfaces will be painted using water based paints.
  - .6 Use trigger operated spray nozzles for water hoses.
  - .7 Many water-based paints cannot be removed with water once dried. Minimize the use of kerosene or any such organic solvents to clean up water-based paints.
- .4 Prevent contamination of cleaned surfaces by salts, acids, alkalis, other corrosive chemicals, grease, oil and solvents before prime coat is applied and between applications of remaining coats. Touch-up, spot prime and apply primer, paint, or pre-treatment as soon as possible after cleaning and before deterioration occurs.

**3.5 CLEANING AND PREPARATION** (continued)

- .5 Where possible, prime surfaces of new wood surfaces before installation. Use same primers as specified for exposed surfaces.
  - .1 Apply vinyl sealer to MPI #36 over knots, pitch, sap and resinous areas.
  - .2 Apply wood filler to nail holes and cracks.
  - .3 Tint filler to match stains for stained woodwork.
- .6 Sand and dust between coats as required to provide adequate adhesion for next coat and to remove defects visible from a distance up to 1000 mm.
- .7 Clean metal surfaces to be painted by removing rust, loose mill scale, welding slag, dirt, oil, grease and other foreign substances in accordance with MPI requirements. Remove such contaminants and traces of blast products from surfaces, pockets and corners to be painted by brushing with clean brushes, blowing with clean dry compressed air, or vacuum cleaning as required.
- .8 Touch up of shop primers with primer as specified in applicable section. Major touch-up including cleaning and painting of field connections, welds, rivets, nuts, washers, bolts, and damaged or defective paint and rusted areas, shall be by supplier of fabricated material.
- .9 Do not apply paint until prepared surfaces have been accepted by Departmental Representative.

**3.6 APPLICATION**

- .1 Method of application to be as approved by Departmental Representative. Apply paint by brush, roller, air sprayer or airless sprayer. Conform to manufacturer's application instructions unless specified otherwise.
- .2 Brush and Roller Application:
  - .1 Apply paint in a uniform layer using brush and/or roller of types suitable for application.
  - .2 Work paint into cracks, crevices and corners.
  - .3 Paint surfaces and corners not accessible to brush using spray, daubers and/or sheepskins. Paint surfaces and corners not accessible to roller using brush, daubers or sheepskins.
  - .4 Brush and/or roll out runs and sags, and over-lap marks. Rolled surfaces shall be free of roller tracking and heavy stipple unless approved by Departmental Representative.
  - .5 Remove runs, sags and brush marks from finished work and repaint.
- .3 Spray application:
  - .1 Provide and maintain equipment that is suitable for intended purpose, capable of properly atomizing paint to be applied, and equipped with suitable pressure regulators and gauges.
  - .2 Keep paint ingredients properly mixed in containers during paint application either by continuous mechanical agitation or by intermittent agitation as frequently as necessary.
  - .3 Apply paint in uniform layer, with overlapping at edges of spray pattern.

**3.6 APPLICATION (continued)**

- .3 (continued)
  - .4 Brush out immediately runs and sags.
  - .5 Use brushes to work paint into cracks, crevices and places which are not adequately painted by spray.
- .4 Use dipping, sheepskins or daubers only when no other method is practical in places of difficult access and only when specifically authorized by Departmental Representative.
- .5 Apply coats of paint as a continuous film of uniform thickness. Repaint thin spots or bare areas before next coat of paint is applied.
- .6 Allow surfaces to dry and properly cure after cleaning and between subsequent coats for minimum time period as recommended by manufacturer.
- .7 Sand and dust between coats to remove visible defects.
- .8 Finish surfaces both above and below sight lines as specified for surrounding surfaces.
- .9 Finish closets and alcoves as specified for adjoining rooms.
- .10 Finish top, bottom, edges and cutouts of doors after fitting as specified for door surfaces.

**3.7 MECHANICAL / ELECTRICAL EQUIPMENT**

- .1 Remove all adhesive labels/ stickers and adhesive residue from pipe fittings, conduits, electrical boxes etc., prior to commencing painting.
- .2 Unless otherwise specified, paint finished area exposed conduits, piping, hangers, ductwork and other mechanical and electrical equipment with colour and finish to match adjacent surfaces, except as noted otherwise.
- .3 In mechanical and electrical rooms: paint exposed conduits, piping, hangers, ductwork and other mechanical and electrical equipment.
- .4 In other unfinished areas: leave exposed conduits, piping, hangers, ductwork and other mechanical and electrical equipment in original finish and touch up scratches and marks.
- .5 Touch up scratches and marks on factory painted finishes and equipment with paint as supplied by manufacturer of equipment.
- .6 Do not paint over nameplates.
- .7 Keep sprinkler heads free of paint.
- .8 Paint inside of ductwork where visible behind grilles, registers and diffusers with primer and one coat of matt black paint.
- .9 Paint fire protection piping red.

**3.7 MECHANICAL/ELECTRICAL EQUIPMENT** (continued)

- .10 Paint disconnect switches for fire alarm system and exit light systems in red enamel.
- .11 Paint both sides and edges of backboards electrical equipment before installation with fire retardant paint. Leave equipment in original finish except for touch-up as required, and paint conduits, mounting accessories and other unfinished items.
- .12 Do not paint transformers and substation equipment.
- .13 Unless otherwise specified, paint exterior exposed conduits, piping, hangers, ductwork and other mechanical and electrical equipment with colour and finish to match adjacent surfaces, except as noted otherwise. Remove all adhesive labels/ stickers and adhesive residue from all conduits, pipes, elbows, electrical boxes etc., prior to commencing painting.

**3.8 CLEANING**

- .1 Clean in accordance with Section 01 74 11 – Cleaning.
- .2 Remove paint where spilled, splashed, splattered or sprayed as work progresses using means and materials that are not detrimental to affected surfaces.
- .3 Clean equipment and dispose of wash water used for water borne materials, solvents used for oil based materials as well as other cleaning and protective materials (i.e. rags, drop cloths, and masking papers), paints, thinners, paint removers/strippers in accordance with safety requirements of Governmental Authorities.
- .4 Clean painting equipment in leak-proof containers that will permit particulate matter to settle out and be collected. Sediment remaining from cleaning operations to be recycled or disposed of in manner acceptable to Governmental Authorities.

**3.9 RESTORATION**

- .1 Clean and re-install all hardware items removed before undertaken painting operations.
- .2 Remove protective coverings and warning signs as soon as practical after operations cease.
- .3 Remove paint splashings on exposed surfaces that were not painted. Remove smears and spatter immediately as operations progress, using compatible solvent.
- .4 Protect freshly completed surfaces from paint droppings and dust to approval of Departmental Representative. Avoid scuffing newly applied paint.
- .5 Restore areas used for storage, cleaning, mixing and handling of paint to clean condition as approved by Departmental Representative.

**END OF SECTION**