

PART 1 GENERAL

1.1 SECTION INCLUDES

- .1 Surface preparation and field application of paints and coatings.
- .2 Labour, materials, tools and other equipment, services and supervision required to Complete interior and exterior painting and decorating Work as indicated on Finish Schedules and to the full extent of the drawings and specifications.
- .3 Work also includes, but not necessarily be limited to:
 - .1 High pressure washing and abrasive blasting of surfaces.
 - .2 Surface preparation of substrates as required for acceptance of painting, including cleaning, small crack repair, patching, caulking, and making good surfaces and areas to limits defined under MPI preparation requirements.
 - .3 Specific pre-treatments noted herein or specified in the Master Painters Institute (**MPI**) Architectural Painting Specification Manual.
 - .4 Priming (except where pre-primed with an approved primer under other Sections of Work) and painting of structural steel, miscellaneous metal, ornamental metal and primed steel equipment.
 - .5 Priming and back-priming of wood materials as noted herein or specified in **MPI** Architectural Painting Specification Manual.
 - .6 Painting of semi-concealed areas (e.g. inside of light troughs and valances, behind grilles, and projecting edges above and below sight lines).
 - .7 Painting of exposed to view mechanical (heating, ventilating and plumbing) services and equipment, e.g., ducts, sprinkler piping, etc., and electrical Work to extent noted on Finish Schedule unless pre-finished.
 - .8 Re-painting of existing surfaces and finishes when adjacent to new painting and coating Work where applicable including surface preparation, prime and finish coats, in accordance with **MPI** Repainting Manual requirements.
 - .9 Provision of safe and adequate ventilation where toxic and/or volatile/flammable materials are being used.
- .4 Refer to Drawings and schedules for additional locations that include touch-ups and field painting necessary to complete Work shown, scheduled or specified.
- .5 This Section along with the drawings forms part of the Contract documents and is to be read, interpreted and coordinated with all other parts.

1.2 REFERENCES

- .1 AWWA (American Water Works Association) - C218 - Standard for Coating the Exterior of Aboveground Steel Water Pipelines & Fittings.
- .2 AWWA (American Water Works Association) - D102 - Coating Steel Water Storage Tanks.
- .3 NACE (National Association of Corrosion Engineers) - Industrial Maintenance Painting.
- .4 MPI (Master Painters Institute)
 - .1 Architectural Painting Specifications manual.
 - .2 Maintenance Repainting Manual.
- .5 SPC (The Society for Protective Coatings) (formerly SSPC - Steel Structures Painting Council) - Steel Structures Painting Manual.

1.3 SUBMITTALS

- .1 Section 01 33 00 - Submission Procedures.
- .2 Product Data: Provide data on finishing Products.
- .3 Submit two (2) sets of Material Safety Data Sheets (MSDS) prior to commencement of work for review and for posting at job site as required.
- .4 If requested, submit work schedule for various stages of work when painting occupied areas for the Departmental Representative's approval.
- .5 At project completion provide an itemized list complete with manufacturer, paint type and colour coding for all colours used for Owner's later use in maintenance.
- .6 At project completion provide properly packaged maintenance materials as noted herein and obtain a signed receipt.

1.4 SAMPLES AND MOCK-UPS

- .1 Colour Samples: Submit duplicate 200 x 200 mm sample card of each type of colour of paint finish specified.
- .2 When requested by the Departmental Representative or Paint Inspection Agency, provide duplicate minimum 200 mm square samples of surfaces or acceptable facsimiles requested painted with specified paint or coating in colours, gloss / sheen and textures required to **MPI** Painting Manual standards for review and approval. When approved, samples shall become acceptable standard of quality for appropriate on-site surface with one of each sample retained on-site.

- .3 When requested by the Departmental Representative or Paint Inspection Agency, prepare and paint designated surface, area, room or item (in each colour scheme) to requirements specified herein, with specified paint or coating showing selected colours, gloss / sheen, textures and workmanship to **MPI** Painting Manual standards for review and approval. When approved, surface, area, room and/or items shall become acceptable standard of finish quality and workmanship for similar on-site work.

1.5 **QUALITY ASSURANCE**

- .1 Do painting and finishing Work in accordance with **MPI** Architectural Painting Specification Manual, latest edition, and Maintenance Repainting Specification Manual, latest edition, except where specified otherwise.
- .2 **Applicator Qualifications:** Minimum of five (5) years proven satisfactory experience and shall submit documentation, prior to commencement of Work, that he will maintain a qualified crew of painters throughout duration of Work. When requested, submit list of last three comparable jobs, including: name and location, specifying Departmental Representative, project manager, start and completion dates and cost of painting Work.
- .3 Only qualified journeymen who have a "Tradesman Qualification Certificate of Proficiency" shall be engaged in painting and decorating Work. Apprentices may be employed provided they Work under direct supervision of a qualified journeyman in accordance with trade regulations.
- .4 All materials, preparation and workmanship shall conform to requirements of the latest edition of the Architectural Painting Specification Manual by the Master Painters Institute (**MPI**) (hereafter referred to as the **MPI** Painting Manual) as issued by the local **MPI** Accredited Quality Assurance Association having jurisdiction.
- .5 Paint manufacturers and Products used shall be as listed under "Approved Products" section of **MPI** Architectural Painting Specification Manual.
- .6 All painting and decorating work shall be inspected by a Paint Inspection Agency (inspector) acceptable to the specifying authority and the local **MPI** Accredited Quality Assurance Association. The painting contractor shall notify the Paint Inspection Agency a minimum of one week prior to commencement of work and provide a copy of the project painting specification, plans and elevation drawings (including pertinent details) as well as a Finish Schedule.
- .7 All surfaces requiring painting shall be inspected by the Paint Inspection Agency who shall notify the Departmental Representative and General Contractor in writing of any defects or problems, prior to commencing painting work, or after the prime coat shows defects in the substrate.
- .8 Where "special" painting, coating or decorating system applications (i.e. non-**MPI** listed products or systems) are to be used, the paint or coating manufacturer shall provide as part of this work, certification of all surfaces and conditions for specific paint or coating system application as well as on site supervision, inspection and approval of their paint or coating system application as required at no additional cost to the Owner.

- .9 The painting contractor shall receive written confirmation of the specific surface preparation procedures and primers used for all fabricated steel items from the fabricator / supplier to ascertain appropriate and manufacturer compatible finish coat materials to be used before painting any such work.
- .10 **MPI Paint Schedule** - Submit schedule within thirty (30) days of Contract award. Schedule is appended to back of this section.
 - .1 Fill out corporate and contact information.
 - .2 For each substrate, list MPI information and approved manufacturer's information.
 - .3 Submit to Departmental Representative for review.
 - .4 Do not proceed with Work until schedule is reviewed in writing by Departmental Representative.

1.6 DELIVERY, STORAGE, AND HANDLING

- .1 Deliver Products to site in sealed and labeled containers; inspect to verify acceptability.
- .2 Container label to include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, colour designation, and instructions for mixing and reducing.
- .3 Store paint materials in original labelled containers in a secure (lockable), dry, heated and well ventilated single designated area meeting minimum requirements of both paint manufacturer and Authorities Having Jurisdiction, and at a minimum ambient temperature of 7 degrees C. Only material used on this project to be stored on site.
- .4 Where toxic and/or volatile/explosive/flammable materials are being used, provide adequate fireproof storage lockers and take necessary precautions and post adequate warnings (i.e. No Smoking) as required. Take adequate measures to prevent release of volatile organic compounds (VOC's) into atmosphere.
- .5 Take necessary precautionary and safety measures to prevent fire hazards and spontaneous combustion and to protect environment from hazard spills. Materials that constitute a fire hazard (paints, solvents, drop cloths, etc.) shall be stored in suitable closed and rated containers and removed from site on a daily basis.
- .6 Comply with requirements of Authorities Having Jurisdiction, in regard to use, handling, storage and disposal of hazardous materials.

1.7 SCHEDULING

- .1 Schedule painting operations to prevent disruption of and by other trades.
- .2 Schedule painting operations in occupied facilities to prevent disruption of occupants in and about the building. Painting shall be carried out after facility working hours and on weekends in accordance with Owner's operating requirements. Schedule work such that painted surfaces will have dried before occupants are affected. Obtain written authorization from Departmental Representative for changes in work schedule.

1.8 ENVIRONMENTAL REQUIREMENTS

- .1 Do not apply materials when surface and ambient temperatures are outside temperature ranges required by paint Product manufacturer.
- .2 Do not apply exterior coatings during rain or snow, or when relative humidity is outside humidity ranges required by paint Product manufacturer.
- .3 UNLESS specifically pre-approved by Departmental Representative and applied Product manufacturer, perform no painting or decorating Work when ambient air and substrate temperatures are below 10 degrees C for both interior and exterior Work.
- .4 Perform no exterior painting work unless environmental conditions are within MPI and paint manufacturer's requirements or until adequate weather protection is provided. Where required, suitable weatherproof covering and sufficient heating facilities shall be in place to maintain minimum ambient air and substrate temperatures for twenty- four (24) hours before, during and after paint application.
- .5 Perform no interior painting or decorating work unless adequate continuous ventilation and sufficient heating facilities are in place to maintain ambient air and substrate temperatures above minimum requirements for twenty-four (24) hours before, during and after paint application. Provide supplemental ventilating and heating equipment if ventilation and heating from existing system is inadequate to meet minimum requirements.
- .6 Perform no painting or decorating Work when relative humidity is above 85% or when dew point is less than 3 degrees C variance between air/surface temperature.
- .7 Perform no painting or decorating Work when maximum moisture content of substrate exceeds:
 - .1 12% for concrete and masonry (clay and concrete brick/block).
 - .2 15% for wood.
 - .3 12 % for plaster and gypsum board.
 - .4 8% for concrete floors.
- .8 Conduct moisture tests using a properly calibrated electronic Moisture Meter, except test concrete floors for moisture using a simple "cover patch test".
- .9 Test concrete, masonry and plaster surfaces for alkalinity as required.
 - .1 Note: Concrete and masonry surfaces must be installed at least twenty-eight (28) days prior to painting and decorating Work and must be visually dry on both sides. This is not to be construed as including a "wetting down" process for Latex.
- .10 Apply paint only to dry, clean, properly cured and adequately prepared surfaces in areas where dust is no longer generated by construction activities such that airborne particles will not affect the quality of finished surfaces.

- .11 Perform no painting or decorating Work unless a minimum lighting level of 323 Lux (30 foot candles) is provided on surfaces to be painted or decorated. Adequate lighting facilities shall be provided by Construction Manager.
- .12 Perform no painting or decorating Work unless adequate continuous ventilation and sufficient heating facilities are in place to maintain ambient air and substrate temperatures above 10 degrees C for twenty-four (24) hours before, during and after paint application. Provide supplemental ventilating and heating equipment if ventilation and heating from existing system is inadequate to meet minimum requirements.

1.9 MAINTENANCE MATERIALS & DATA

- .1 Submit complete list of various paints used throughout project, indicating material, manufacturer and manufacturer's colour number for inclusion in Maintenance Manuals.
- .2 Leave on premises for touching up, sufficient quantity (not less than 1%) of colours and types of paint scheduled.
- .3 Containers shall be tightly sealed and clearly labelled for identification.
- .4 Maintenance materials to be from same production run as installed materials.
- .5 Furnish Departmental Representative, a copy of each manufacturer's maintenance instructions. Submit complete list of various wall coverings used throughout project, indicating material, manufacturer and manufacturer's colour number for inclusion in Maintenance Manuals.

1.10 WASTE MANAGEMENT AND DISPOSAL

- .1 Paint, stain and wood preservative finishes and related materials (thinners, solvents, etc.) are regarded as hazardous products and are subject to regulations for disposal. Obtain information on these controls from applicable Provincial or Local government departments having jurisdiction.
- .2 All waste materials shall be separated and recycled. Where paint recycling is available, collect waste paint by type and provide for delivery to recycling or collection facility. Materials that cannot be reused must be treated as hazardous waste and disposed of in an appropriate manner.
- .3 Place materials defined as hazardous or toxic waste, including used sealant and adhesive tubes and containers, in containers or areas designated for hazardous waste.
- .4 To reduce the amount of contaminants entering waterways, sanitary/storm drain systems or into the ground the following procedures shall be strictly adhered to:
 - .1 Retain cleaning water for water-based materials to allow sediments to be filtered out. In no case shall equipment be cleaned using free draining water.
 - .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 contaminant recovery, proper disposal, or appropriate cleaning and laundering.
- .4 Dispose of contaminants in an approved legal manner in accordance with hazardous waste regulations.
- .5 Empty paint cans are to be dry prior to disposal or recycling (where available).
- .6 Close and seal tightly partly used cans of materials including sealant and adhesive containers and store protected in well ventilated fire-safe area at moderate temperature.
- .5 Set aside and protect surplus and uncontaminated finish materials not required by the Owner and deliver or arrange collection for verifiable re-use or re-manufacturing.

1.11 GUARANTEE

- .1 Furnish either:
 - .1 Guarantee: **MPI** Accredited Quality Assurance Association's two (2) year guarantee, or,
 - .2 Maintenance Bond: a 100% two (2) year Maintenance Bond - both in accordance with **MPI** Painting Manual requirements.
 - .1 Maintenance Bond shall warrant that painting Work has been performed in accordance with **MPI** Painting Manual requirements.
 - .2 Provide maintenance bond consent from a reputable surety company licensed to do business in Canada. Cash or certified check is not acceptable in lieu of surety consent.
- .2 Inspection and Guarantee Program:
 - .1 Painting and decorating Work shall be in accordance with **MPI** Painting Manual requirements.
 - .2 Work shall be inspected by local **MPI** Accredited Quality Assurance Association's Paint Inspection Agency (inspector), whether using either **MPI** Accredited Quality Assurance Association's guarantee, or Maintenance Bond option.
 - .3 Cost for such inspections, and for either local **MPI** Accredited Quality Assurance Association's Guarantee, or Maintenance Bond, shall be included in Base Bid Price.
- .3 Painting and decorating Subcontractors choosing the Maintenance Bond option shall provide a maintenance bond consent from a reputable surety company licensed to do business in Canada. Cash or certified check are not acceptable in lieu of surety consent.

PART 2 PRODUCTS

2.1 PAINT MATERIALS

- .1 Paints and coatings that meet and listed as MPI GPS-1 standard.
- .2 Materials (primers, paints, coatings, varnishes, stains, lacquers, fillers, thinners, solvents, etc.) shall be in accordance with **MPI** Architectural Painting Specification Manual "Approved Product" listing and shall be from a single manufacturer for each system used.
- .3 Other paint materials such as linseed oil, shellac, etc. shall be highest quality Product of an approved manufacturer listed in **MPI** Architectural Painting Specification Manual and shall be compatible with other coating materials as required.
- .4 Materials and paints to be lead and mercury free and have low VOC content where possible.
- .5 Products shall meet requirements of Environmental Choice Program, Department of Environment. Water based paints to be certified to ECP-07-89, solvent based; to ECP-12-89.
- .6 Where required, use only materials having a minimum MPI "Environmentally Friendly" E2 rating based on VOC (EPA Method 24) content levels.
- .7 Where indoor air quality (odour) is an issue, use only MPI listed materials having a minimum E2 rating.
- .8 Paint materials to have good flowing and brushing properties and to dry or cure free of blemishes, sags, air entrapment, etc.
- .9 Where required, paints and coatings shall meet flame spread and smoke developed ratings designated by local Code requirements and/or authorities having jurisdiction.
- .10 Slip resistant additives (SRA) - rubber aggregate, clean/washed silica sand or ground walnut chips (interior dry areas only) for use with or as a component part of paint (usually floor/porch/stair enamel) on horizontal surfaces as required to provide slip resistance. Where site applied, material to either mixed into paint (and mixed constantly to keep material in suspension) or broadcast into first or prime coat as required.
- .11 Patching compounds: Spackling compound or oil base putty for surfaces receiving a paint finish. Oil base putty, coloured to match finish, for surfaces receiving a transparent finish.
- .12 Metal primers: For structural metals and metal fabrications: to CISC/CPMA 1-73a. For hollow metal doors and frames: to CGSB 1-GP-181M.

2.2 EQUIPMENT

- .1 Painting and Decorating Equipment: to best trade standards for type of product and application.
- .2 Spray Painting Equipment: of ample capacity, suited to the type and consistency of paint or coating being applied and kept clean and in good working order at all times.

2.3 MIXING AND TINTING

- .1 Unless otherwise specified herein or pre-approved, all paint shall be ready-mixed and pre-tinted. Re-mix all 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 Paste, powder or catalyzed paint mixes shall be mixed in strict accordance with manufacturer's written instructions.
- .3 Where thinner is used, addition shall not exceed paint manufacturer's recommendations. Do not use kerosene or any such organic solvents to thin water-based paints.
- .4 If required, 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.

2.4 COLOUR SCHEDULE

- .1 Colour Schedule: Match existing
- .2 Walls shall be painted same colour within a given area.
- .3 Ceilings shall be painted to match existing.
- .4 Doors, frames and trim shall be painted match existing
- .5 Where other methods are not specified (i.e. applied material or nosings) and/or in accordance with requirements of Authorities Having Jurisdiction at stairs providing access and exit for persons with visual impairment, slip resistant paint shall be applied to handrails and treads. Slip resistant paint shall be of a contrasting colour at tactile warning strips at stair treads and landings.

2.5 GLOSS / SHEEN RATINGS

- .1 Paint gloss shall be defined as the sheen rating of applied paint, in accordance with the following **MPI** values.
- .2 Specified gloss levels are based on **MPI** standard, which is as follows:
 - .1 **Gloss Level Previous Industry Description Gloss at 60 Sheen at 85**
 - .1 Gloss Level 1 Traditional matte finish- flat Max 5 units and Max 10 units
 - .2 Gloss Level 2 High side sheen flat – a "velvet-like" finish Max 10 units and 10-35 units
 - .3 Gloss Level 3 Traditional "eggshell-like" finish 10-25 units and 10-35 units
 - .4 Gloss Level 4 Satin-like finish 20-35 units and Min 35 units
 - .5 Gloss Level 5 Traditional semi-gloss 35-70 units
 - .6 Gloss Level 6 Traditional gloss 70-85 units
 - .7 Gloss Level 7 High Gloss 85 units +
- .3 Except as otherwise specified, gloss levels for interior paint finishes shall be as follows:
 - .1 Gloss Level 4: walls of classrooms, washrooms, storage rooms, mechanical rooms, janitor rooms, corridors, stairwells, etc.
 - .2 Gloss Level 3: ceilings, ceiling bulkheads, etc.
 - .3 Gloss Level 5: metal railings, doors, frames and trim, etc.
 - .4 Gloss Level 2: gypsum board ceilings in storage rooms, janitor rooms, etc.
- .4 Where gloss level is not specified, allow for satin finish.
- .5 Prior to proceeding with finish coats, confirm with Departmental Representative required gloss levels for surfaces.

PART 3 EXECUTION

3.1 EXAMINATION

- .1 Prior to commencement of work of this section, thoroughly examine (and test as required) all conditions and surfaces scheduled to be painted and report in writing to the Contractor and Departmental Representative any conditions or surfaces that will adversely affect work of this section.
- .2 Thoroughly inspect existing conditions to verify the degree of surface deterioration (DSD) of each previously coated substrate required to be repainted or refinished. Degrees of surface deterioration shall be as defined in the MPI "Maintenance Repainting Manual" (MR Manual), Chapters 2 and 3, Section 3 - Surface Preparation.

- .3 Do not proceed with painting Work until defects have been corrected and surfaces acceptable.
- .4 It shall be responsibility of Painting Subcontractor to see that surfaces are properly prepared before paint or coating is applied.
- .5 Commencement of Work implies acceptance of surfaces.

3.2 PREPARATION OF SURFACES

- .1 Prepare surfaces to be painted to requirements of MPI Manual, "Surface Preparation" and MPI Maintenance Repainting Manual, "Surface Preparation".
- .2 Prepare substrates using surface preparation procedures in Chapter 6 Section 2 as defined in the MPI "Maintenance Repainting Manual", including cleaning and removal systems, specified for the degree of surface deterioration.
- .3 Sand, clean, dry, etch, neutralize and/or test all surfaces under adequate illumination, ventilation and temperature requirements.
- .4 Painting work shall be scheduled before the installation of miscellaneous hardware, surface fittings, fastenings, fixtures and trim by others including the hanging of doors and installation of door hardware.
- .5 Construction Manager shall remove and securely store all miscellaneous hardware and surface fittings / fastenings (e.g. electrical plates, mechanical louvers, door and window hardware (e.g. hinges, knobs, locks, trim, frame stops), removable rating / hazard / instruction labels, washroom accessories, light fixture trim, etc. from wall and ceiling surfaces, window coverings, and doors, prior to painting. Carefully clean and replace all such items upon completion of painting work in each area. Do not use solvent or reactive cleaning agents on items that will mar or remove finishes (e.g. lacquer finishes). Doors shall be removed before painting to paint bottom and top edges and then re-hung.
- .6 Protect all adjacent interior surfaces and areas, including rating and instruction labels on doors, frames, equipment, piping, etc., from painting operations and damage with drop cloths, shields, masking, templates, or other suitable protective means and make good any damage caused by failure to provide such protection.
- .7 Substrate defects shall be made good and sanded by others ready for painting particularly after the first coat of paint. Start of finish painting of defective surfaces (e.g. gypsum board) shall indicate acceptance of substrate and any costs of making good defects shall be borne by the painter including re-painting of entire defective surface (no touch-up painting).
- .8 Confirm preparation and primer used with fabricator of steel items. Refer to Quality Assurance.

3.3 PAINT APPLICATION

- .1 Do not paint unless substrates are acceptable and/or until all environmental conditions (heating, ventilation, lighting and completion of other subtrade work) are acceptable for applications of products.
- .2 Apply paint or stain in accordance with MPI Painting Manual Premium Grade finish requirements.
- .3 Painting coats specified are intended to cover surfaces satisfactorily with even colour tone, when applied in strict accordance with manufacturers' recommendations, and as specified.
- .4 Apply paint materials to minimum painting standards of MPI Manual and MPI Maintenance Repainting Manual, Premium Grade finish requirements, except as specified otherwise.
- .5 Applied and cured coatings shall be uniform in thickness, sheen, colour, and texture and be free of defects detrimental to appearance and performance. Such defects include brush marks, streaks, runs, laps, heavy stippling, pile-up of paints and skipped or missed areas. Edges of paint adjoining other materials shall be clean and sharp with no overlapping.
- .6 Apply paint and coatings within an appropriate time frame after cleaning when environmental conditions encourage flash-rusting, rusting, contamination or the Manufacturer's paint specifications require earlier applications.
- .7 Painting coats specified are intended to cover surfaces satisfactorily when applied at proper consistency and in accordance with manufacturer's recommendations.
- .8 Apply a minimum of four (4) coats of paint where deep or bright colours are used to achieve satisfactory results.
- .9 Sand and dust between each coat to provide an anchor for next coat and to remove defects visible from a distance up to 1000 mm.
- .10 Do not apply finishes on surfaces that are not sufficiently dry. Unless manufacturer's directions state otherwise, each coat shall be sufficiently dry and hard before a following coat is applied.
- .11 Prime coat of stain or varnish finishes may be reduced in accordance with the Manufacturer's directions.
- .12 Paint finish shall continue through behind all wall-mounted items (e.g. chalk and tack boards).
- .13 Site prime hollow metal Work.
- .14 Interior woodwork which is to receive a paint finish shall be back-primed at job site with enamel undercoat paint.

- .15 Exterior and interior woodwork to be stained and/or varnished shall be back-primed with gloss varnish reduced 25% with mineral spirits.
- .16 Back prime following concealed surfaces of interior wood components, prior to their installation:
 - .1 Surfaces in contact with concrete or masonry.
 - .2 Surfaces in contact with floors of floor finishes.
 - .3 Cut-outs for sinks, drains and other mechanical services.
 - .4 Underside of front edges of counter tops and toe-spaces.
 - .5 Other surfaces which may be subject to moisture during normal use or cleaning operations.
- .17 One (1) Interior, Exterior primer and one (1) finish coat to be applied to top and bottom of edges of wood and metal doors when they are to be painted and prime finished with two (2) coats of gloss varnish when doors are to receive a stained or clear finish. Varnish on wood doors shall be applied after stain or filler coat.

3.4 MECHANICAL AND ELECTRICAL EQUIPMENT

- .1 Paint exposed conduits, pipes, ductwork, unit heaters, hangers and other mechanical and electrical equipment occurring in finished areas as well as inside cupboards and cabinet work. Colour and texture to match adjacent surfaces, except as noted otherwise.
- .2 Colour code mechanical and electrical equipment piping and conduit systems, and exposed ductwork, in accordance with Canadian Government Specification No. 5-GP-1a identification symbols and colours, unless otherwise indicated. Refer to Division 21-28 for additional information.
- .3 Paint piping, conduits, ductwork and other unfinished equipment in mechanical/electrical room. In other unfinished areas leave equipment, piping, conduits, hangers, etc., in original finish and touch up scratches and marks.
- .4 Piping and conduit that is located in spaces above ceilings or enclosed in pipe chases, shall be coded at least once where pipe or conduit enters and once where leaving these areas.
- .5 Paint uninsulated valves, integral pump bases including pumps not shop finished, fans and integral fan bases not shop finished.
- .6 Electrical Equipment:
 - .1 Paint conduit and other fitments and equipment and bases in electrical rooms. In areas above finished ceilings, leave equipment, conduit, etc. in original factory finish.
 - .2 Paint plywood backboards for electrical equipment before installing backboards and mounting equipment.
 - .3 Paint disconnect switches and junction boxes for fire alarm system in accordance with Division 26 requirements.
 - .4 Paint pull and junction boxes in accordance with Division 26 requirements.

3.5 CLEANING

- .1 Remove paint where spilled, splashed, splattered or sprayed as Work progresses using means and materials that are not detrimental to affected surfaces.
- .2 Keep Work area free from an unnecessary accumulation of tools, equipment, surplus materials and debris.
- .3 Remove combustible rubbish materials and empty paint cans each day and safely dispose of same in accordance with requirements of Authorities Having Jurisdiction.
- .4 Clean equipment and dispose of wash water/solvents, as well as other cleaning and protective materials (e.g. rags, drop cloths, masking papers, etc.), paints, thinners, paint removers/strippers in accordance with safety requirements of Authorities Having Jurisdiction.

3.6 PAINTING AND FINISHING SCHEDULES

- .1 Apply number of coats of specified materials to designated surfaces as indicated in Room Finish and drawings.

3.7 EXTERIOR FINISH / COATING SYSTEMS

- .1 Paint exterior surfaces in accordance with the following **MPI** Painting Manual requirements:
 - .1 **Structural Steel and Metal Fabrications:**
 - .1 EXT 5.1D Alkyd finish (over alkyd primer).
 - .2 **Galvanized Metal:** (not chromate passivated). For high contact / high traffic areas (doors, frames, railings, misc. steel, pipes, etc.). For low contact / low traffic areas (overhead decking, ducts, gutters, flashing, etc.).
 - .1 EXT 5.3B Alkyd finish.

3.8 INTERIOR PAINT AND COATING SYSTEMS

- .1 Paint interior surfaces in accordance with the following **MPI** Painting Manual requirements.

3.9 FIELD QUALITY CONTROL / STANDARD OF ACCEPTANCE

- .1 All surfaces, preparation and paint applications shall be inspected.
- .2 Painted exterior and interior surfaces shall be considered to lack uniformity and soundness if any of the following defects are apparent to the Painting Inspection Agency inspector:
 - .1 Brush / roller marks, streaks, laps, runs, sags, drips, heavy stippling, hiding or shadowing by inefficient application methods, skipped or missed areas, and foreign materials in paint coatings.
 - .2 Evidence of poor coverage at rivet heads, plate edges, lap joints, crevices, pockets, corners and re-entrant angles.
 - .3 Damage due to touching before paint is sufficiently dry or any other contributory cause.
 - .4 Damage due to application on moist surfaces or caused by inadequate protection from the weather.
 - .5 Damage and/or contamination of paint due to blown contaminants (dust, spray paint, etc.).
- .3 Painted surfaces shall be considered unacceptable if any of the following are evident under natural lighting source for exterior surfaces and final lighting source (including daylight) for interior surfaces:
 - .1 Visible defects are evident on vertical surfaces when viewed at normal viewing angles from a distance of not less than 1000 mm (39").
 - .2 Visible defects are evident on horizontal surfaces when viewed at normal viewing angles from a distance of not less than 1000 mm (39").
 - .3 Visible defects are evident on ceiling, soffit and other overhead surfaces when viewed at normal viewing angles.
 - .4 When the final coat on any surface exhibits a lack of uniformity of colour, sheen, texture, and hiding across full surface area.
- .4 Painted surfaces rejected by the inspector shall be made good at the expense of the Contractor. Small affected areas may be touched up; large affected areas or areas without sufficient dry film thickness of paint shall be repainted. Runs, sags of damaged paint shall be removed by scraper or by sanding prior to application of paint.

3.10 PROTECTION

- .1 Protect all exterior surfaces and areas, including landscaping, walks, drives, all adjacent building surfaces (including glass, aluminum surfaces, etc.) and equipment and any labels and signage from painting operations and damage by drop cloths, shields, masking, templates, or other suitable protective means and make good any damage caused by failure to provide such protection.
- .2 Protect all interior surfaces and areas, including glass, aluminum surfaces, etc. and equipment and any labels and signage from painting operations and damage by drop cloths, shields, masking, templates, or other suitable protective means and make good any damage caused by failure to provide such protection.
- .3 Erect barriers or screens and post signs to warn of or limit or direct traffic away or around work area as required.

3.11 CLEAN-UP

- .1 Remove all paint where spilled, splashed, splattered or sprayed as work progresses using means and materials that are not detrimental to affected surfaces.
- .2 Keep work area free from an unnecessary accumulation of tools, equipment, surplus materials and debris.
- .3 Remove combustible rubbish materials and empty paint cans each day and safely dispose of same in accordance with requirements of Authorities having Jurisdiction.
- .4 Clean equipment and dispose of wash water / solvents as well as all other cleaning and protective materials (e.g. rags, drop cloths, masking papers, etc.), paints, thinners, paint removers / strippers in accordance with the safety requirements of Authorities Having Jurisdiction.

3.12 REPAINTING OF EXISTING FINISHES

- .1 Refer to MPI Maintenance Repainting Manual for repainting of existing finishes.
- .2 Use finish coat of respective new surface paint system for minor repair of existing finishes. Use system primer where existing finishes are damaged down to bare surface.

3.13 EXTERIOR FINISH / COATING SYSTEMS

- .1 Repaint exterior surfaces in accordance with the following MPI Repainting Manual requirements.

3.14 INTERIOR FINISH / COATING SYSTEMS

- .1 Repaint interior surfaces in accordance with the following MPI Repainting Manual requirements.

3.15 PAINT SCHEDULE

- .1 Fill in the following and submit to Departmental Representative for review.

MASTER PAINTERS INSTITUTE PAINT SCHEDULE

Company:

Phone:

Contact:

Facsimile:

Email:

Specified Quality:

Master Painters Institute / 2018 Approved Paint Products

Substrate, MPI#, MPI Name / Manufacturer Product, Code

END OF SECTION

