

PART 1 - GENERAL

1.1 REFERENCES

- .1 Perform the work in accordance with the relevant codes and standards from the regulatory agencies and institutes listed below.
- .2 The latest issue of an individual code, standard or regulation at the time of contract signing shall govern.
- .3 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .4 Master Painters Institute (MPI)
 - .1 MPI Architectural Painting Specifications Manual 2005.
 - .2 MPI - Maintenance Repainting Manual 2012.
- .5 In the event of conflict between the reference codes and standards, drawings, specifications, and/or the Purchase Order, obtain clarification before proceeding with the work.

1.2 SUBMITTALS

- .1 Submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit product data and instructions for each paint and coating product to be used.
 - .2 Submit product data for the use and application of paint thinner.
 - .3 Submit two copies of Workplace Hazardous Materials Information System (WHMIS) Material Safety Data Sheets (MSDS) in accordance with Section 01 33 00 - Submittal Procedures. Indicate VOCs during application and curing .
 - .4 Submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.
 - .5 Submit manufacturer's installation and application instructions.

1.3 STORAGE AND HANDLING

- .1 Storage and Protection:
 - .1 Provide and maintain dry, temperature controlled, secure storage.
 - .2 Store materials and supplies away from heat generating devices.
 - .3 Store materials and equipment in well ventilated area within temperature as recommended by manufacturer.
- .2 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 on a daily basis.

- .3 Handle, store, use and dispose of flammable and combustible materials in accordance with National Fire Code of Canada requirements.

1.4 WASTE MANAGEMENT AND DISPOSAL

- .1 Place materials defined as hazardous or toxic waste, including tubes and containers, in containers or areas designated for hazardous waste.

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 Provincial Ministries of Environment and Regional levels of Government.

1.5 SITE CONDITIONS

- .1 Heating, Ventilation and Lighting:

- .1 Ventilate enclosed spaces in accordance with Section 01 50 00.
- .2 Co-ordinate use of existing ventilation system with Departmental Representative and ensure its operation during and after application of paint as required.
- .3 Provide minimum lighting level of 323 Lux on surfaces to be painted.

- .2 Temperature, Humidity and Substrate Moisture Content Levels:

- .1 Apply paint finishes when ambient air and substrate temperatures at location of installation can be satisfactorily maintained during application and drying process, within MPI and paint manufacturer's prescribed limits.
- .2 Test concrete, masonry and plaster surfaces for alkalinity as required.
- .3 Apply paint to adequately prepared surfaces, when moisture content is below paint manufacturer's prescribed limits.

- .3 Additional application requirements:

- .1 Apply paint finish 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 in occupied facilities during silent hours only. Schedule operations to approval of Departmental Representative such that painted surfaces will have dried and cured sufficiently before occupants are affected.

PART 2 - PRODUCTS

2.1 SUSTAINABLE REQUIREMENTS

- .1 Materials and products in accordance with Section 01 47 15 – Sustainable Requirements

2.2 MATERIALS

- .1 Paint materials listed in the MPI Approved Products List (APL) are acceptable for use on this project.
- .2 Provide paint materials for paint systems from single manufacturer.
- .3 Only qualified products with E2 or E3 “Environmentally Friendly” rating are acceptable for use on this project.
- .4 Conform to latest MPI requirements for all 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 and MPI - Maintenance Repainting Manual “Approved Product” listing.
- .6 Provide paint products meeting MPI “Environmentally Friendly” E2 or E3 ratings based on VOC (EPA Method 24) content levels.
- .7 Use MPI listed materials having minimum E2 or E3 rating where indoor air quality (odour) requirements exist.

2.3 COLOURS

- .1 Submit proposed Colour Schedule to Departmental Representative for review.
- .2 Colour schedule will be based upon selection of five base colours and three accent colours.

2.4 MIXING AND TINTING

- .1 Perform colour tinting operations prior to delivery of paint to site, in accordance with manufacturer’s written instructions. Obtain written approval from Departmental Representative for tinting of painting materials.
- .2 Use and add thinner in accordance with paint manufacturer’s recommendations. Do not use kerosene or similar organic solvents to thin water-based paints.
- .3 Thin paint for spraying in accordance with paint manufacturer’s instructions.
- .4 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.

2.5 GLOSS/SHEEN RATINGS

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

	Gloss @ 60 degrees	Sheen @ 85 degrees
Gloss Level 1 - Matte Finish (flat)	Max. 5	Max. 10
Gloss Level 2 - Velvet-Like Finish	Max.10	10 to 35
Gloss Level 3 - Eggshell Finish	10 to 25	10 to 35
Gloss Level 4 - Satin-Like Finish	20 to 35	min. 35
Gloss Level 5 - Traditional Semi-Gloss Finish	35 to 70	
Gloss Level 6 - Traditional Gloss	70 to 85	
Gloss Level 7 - High Gloss Finish	More than 85	

- .2 Gloss level ratings of painted surfaces as indicated and as noted on Finish Schedule.

2.6 EXTERIOR PAINTING SYSTEMS

- .1 Galvanized Metal: not chromate passivated (doors, frames, stair, railings, etc.):
- .1 EXT 5.3D - Pigmented polyurethane finish for use in high contact/high traffic areas, premium grade.

2.7 EXTERIOR RE-PAINTING SYSTEMS

- .1 Concrete vertical surfaces
- .1 REX 3.1 C – High performance acrylic, premium grade.

2.8 INTERIOR PAINTING SYSTEMS

- .1 Galvanized metal: doors, frames, railings, misc. steel, pipes, overhead decking, ducts, etc.
- .1 INT 5.3B, M – High performance architectural latex, G5 finish, premium grade..
- .2 Wood panelling and casework: partitions, panels, shelving, millwork:
- .1 INT 6.4J – polyurethane varnish, satin finish, premium grade.
- .3 Plaster and gypsum board: gypsum wallboard, drywall, “sheet rock” type material, etc.
- .1 INT 9.2 B – Institutional low odour VOC G3 finish for walls, premium grade..
- .2 INT 9.2B - Institutional low odour VOC G3 finish for walls, premium grade

2.9 INTERIOR RE-PAINTING SYSTEMS

- .1 Galvanized Metal: high contact/high traffic areas (doors, frames, railings and handrails, etc.).
- .1 RIN 5.3M – High Performance acrylic, G3 Finish, Premium Grade.
- .2

- .2 Dressed Lumber: (including doors, door and window frames, moldings, etc.)
 - .1 RIN 6.3Q – High Performance acrylic, G5 Finish, Premium Grade.
- .3 Plaster and Gypsum Board: gypsum wallboard, drywall, "sheet rock" type material, etc.
 - .1 RIN 9.2A – Latex, G4 Finish, Premium Grade.

PART 3 - EXECUTION

3.1 GENERAL

- .1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and data sheet.
- .2 Perform preparation and operations for interior painting in accordance with MPI - Architectural Painting Specifications Manual and MPI - Maintenance Repainting Manual except where specified otherwise.

3.2 EXAMINATION

- .1 Investigate existing 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 properly calibrated electronic moisture meter, except test concrete floors for moisture using simple "cover patch test". Do not proceed with work until conditions fall within acceptable range as recommended by manufacturer.
- .3 Where an assessed degree of surface degradation of DSD-1 to DSD-3 before preparation of surfaces for repainting is revealed to be DSD-4 after preparation, repair or replacement of such unforeseen defects discovered are to be corrected, as mutually agreed, before repainting is started.

3.3 PREPARATION

- .1 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 surfaces as directed by Departmental Representative.
 - .2 Protect items that are permanently attached such as Fire Labels on doors and frames.
 - .3 Protect factory finished products and equipment.
- .2 Surface Preparation:
 - .1 Remove electrical cover plates, light fixtures, surface hardware on doors, bath accessories and other surface mounted equipment, fittings and fastenings prior to undertaking painting operations. Identify and store items in secure location and re-installed after painting is completed.

- .2 Move and cover furniture and portable equipment as necessary to carry out painting operations. Replace as painting operations progress.
- .3 Place "WET PAINT" signs in occupied areas as painting operations progress. Signs to approval of Departmental Representative.
- .3 Clean and prepare surfaces in accordance with MPI - Architectural Painting Specification Manual and MPI - Maintenance Repainting Manual specific requirements and coating manufacturer's recommendations.
- .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. Apply primer, paint, or pretreatment as soon as possible after cleaning and before deterioration occurs.
- .5 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.
- .6 Clean metal surfaces to be repainted by removing rust, dirt, oil, grease and foreign substances in accordance with MPI requirements. Remove such contaminants from surfaces, pockets and corners to be repainted by brushing with clean brushes, blowing with clean dry compressed air, or brushing/vacuum cleaning as required. Touch up of shop primers with primer as specified.
- .7 Do not apply paint until prepared surfaces have been accepted by Departmental Representative.
- .8 Sand and dust between coats as required to provide adequate adhesion for next coat and to remove defects visible from distance up to 1000 mm.

3.4 EXISTING CONDITIONS

- .1 Prior to commencing work, examine site conditions and existing interior substrates to be repainted. Report in writing to Departmental Representative damages, defects, or unsatisfactory or unfavourable conditions or surfaces that will adversely affect this work.
- .2 Conduct moisture testing of surfaces to be painted using properly calibrated electronic moisture meter, except test concrete floors for moisture using simple "cover patch test" and report findings to Departmental Representative. Maximum moisture content not to exceed specified limits.
- .3 Do not commence until such adverse conditions and defects have been corrected and surfaces and conditions are acceptable to Painting Subcontractor and Inspection Agency.
- .4 Degree of surface deterioration (DSD) to be assessed using MPI Identifiers and Assessment criteria indicated in MPI Maintenance Repainting Manual. MPI DSD ratings and descriptions are as follows:

<u>Condition</u>	<u>Description</u>
DSD-0	Sound Surface (includes visual (aesthetic) defects that do not affect film's protective properties).
DSD-1	Slightly Deteriorated Surface (indicating fading; gloss reduction, slight surface contamination, minor pin holes scratches).
DSD-2	Moderately Deteriorated Surface (small areas of peeling, flaking, slight cracking, and staining).

DSD-3	Severely Deteriorated Surface (heavy peeling, flaking, cracking, checking, scratches, scuffs, abrasion, small holes and gouges).
DSD-4	Substrate Damage (repair or replacement of surface required).

3.5 APPLICATION

- .1 Method of application to be as approved by Departmental Representative. Conform to manufacturer's application instructions unless specified otherwise.
- .2 Apply minimum of two coats of paint (over primer / sealer) for continuous film of uniform thickness. Repaint thin spots or bare areas before next coat of paint is applied.
- .3 Allow surfaces to dry and properly cure after cleaning and between subsequent coats for minimum time period as recommended by manufacturer.
- .4 Sand and dust between coats to remove visible defects.
- .5 Finish surfaces both above and below sight lines as specified for surrounding surfaces, including such surfaces as tops of interior cupboards and cabinets and projecting ledges.
- .6 Finish inside of cupboards and cabinets as specified for outside surfaces.
- .7 Finish closets and alcoves as specified for adjoining rooms.
- .8 Finish top, bottom, edges and cutouts of doors after fitting as specified for door surfaces.

3.6 MECHANICAL/ELECTRICAL EQUIPMENT

- .1 Paint conduits, piping, hangers, ductwork and other mechanical and electrical equipment exposed in finished areas, to match adjacent surfaces, except as indicated.
- .2 Do not paint over nameplates.
- .3 Paint disconnect switches for fire alarm system and exit light systems in red enamel.
- .4 Paint natural gas piping yellow .
- .5 Paint both sides and edges of backboards for telephone and electrical equipment before installation. Leave equipment in original finish except for touch-up as required, and paint conduits, mounting accessories and other unfinished items.

END OF SECTION