

## **PART 1 GENERAL**

### **1.1 References**

- .1 Health Canada / Workplace Hazardous Materials Information System (WHMIS)
  - .1 Material Safety Data Sheets (MSDS).
- .2 Master Painters Institute (MPI)
  - .1 MPI Architectural Painting Specifications Manual.
- .3 National Fire Code of Canada
- .4 Society for Protective Coatings (SSPC)
  - .1 SSPC Painting Manual, Volume Two, 8th Edition, Systems and Specifications Manual.

### **1.2 Quality Assurance**

- .1 Qualifications:
  - .1 Contractor: minimum of five years proven satisfactory experience.
  - .2 Journeymen: qualified journeymen who have "Tradesman Qualification Certificate of Proficiency" engaged in painting work.
  - .3 Apprentices: working under direct supervision of qualified trades person in accordance with trade regulations.

### **1.3 Submittals**

- .1 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.
- .2 Samples:
  - .1 Submit full range colour sample chips to indicate where colour availability is restricted.
  - .2 Retain reviewed samples on-site to demonstrate acceptable standard of quality for appropriate on-site surface.

### **1.4 Delivery, Storage and Handling**

- .1 Acceptance at Site:
  - .1 Identify products and materials with labels indicating:
    - .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.
- .2 Remove damaged, opened and rejected materials from site.
- .3 Storage and Protection:

- .1 Provide and maintain dry, temperature controlled, secure storage.
- .2 Store materials and supplies away from heat generating devices.
- .4 Store temperature sensitive products above minimum temperature as recommended by manufacturer.

## 1.5 Site Conditions

- .1 Heating, Ventilation and Lighting:
  - .1 Provide heating facilities to maintain ambient air and substrate temperatures above 10 degrees C for 24 hours before, during and after paint application until paint has cured sufficiently.
  - .2 Provide continuous ventilation for seven days after completion of application of paint.
- .2 Temperature, Humidity and Substrate Moisture Content Levels:
  - .1 Unless pre-approved written approval by Contract Administrator and product manufacturer, perform no painting when:
    - .1 Ambient air and substrate temperatures are below 10 degrees C.
    - .2 Substrate temperature is above 32 degrees C unless paint is specifically formulated for application at high temperatures.
    - .3 Substrate and ambient air temperatures are not expected to fall within MPI or paint manufacturer's prescribed limits.
    - .4 Ensure that conditions are within specified limits during drying or curing process, until newly applied coating can itself withstand 'normal' adverse environmental factors.
  - .3 Surface and Environmental Conditions:
    - .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 to adequately prepared surfaces and to surfaces within moisture limits.
    - .3 Apply paint when previous coat of paint is dry or adequately cured.

## PART 2 PRODUCTS

### 2.1 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 Conform to latest MPI requirements for interior painting work including preparation and priming.
- .4 Materials (primers, paints, coatings, varnishes, stains, lacquers, fillers, thinners, solvents, etc.) in accordance with MPI Architectural Painting Specification Manual "Approved Product" listing.
- .5 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.

- .6 Formulate and manufacture water-borne surface coatings with no aromatic solvents, formaldehyde, halogenated solvents, mercury, lead, cadmium, hexavalent chromium or their compounds.

## 2.2 Colours

- .1 Contract Administrator will provide Colour Schedule as follows:
  - .1 Interior plywood walls and ceilings – General Paint CL3173M Excalibur.

## 2.3 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.

## 2.4 Interior Painting Systems

- .1 Galvanized metal: doors, frames, railings, misc. steel, pipes, overhead decking, and ducts.
  - .1 INT 5.3B - Waterborne light industrial semi-gloss coating.
- .2 Wood paneling and casework: partitions, panels, shelving, millwork:
  - .1 INT 6.4B - Alkyd semi-gloss finish (over alkyd sealer).

## PART 3 EXECUTION

### 3.1 Manufacturer's Instructions

- .1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and data sheet.

### 3.2 General

- .1 Perform preparation and operations for interior painting in accordance with MPI Architectural 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 existing substrates for problems related to proper and complete preparation of surfaces to be painted. Report 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 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 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.
  - .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.
  - .3 Clean and prepare surfaces in accordance with MPI Architectural Painting Specification Manual requirements.
  - .4 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.
  - .5 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 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] [\_\_\_\_].
  - .6 Touch up of shop primers with primer as specified.

### 3.5 Application

- .1 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 uniform layer using brush and/or roller type 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 free of roller tracking and heavy stipple.
  - .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 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. Back roll first coat application.
  - .4 Brush out immediately all runs and sags.
  - .5 Use brushes and rollers 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.
- .5 Apply coats of paint 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, including such surfaces as tops of interior cupboards and cabinets and projecting ledges.
- .9 Finish inside of cupboards and cabinets as specified for outside surfaces.
- .10 Finish closets and alcoves as specified for adjoining rooms.
- .11 Finish top, bottom, edges and cutouts of doors after fitting as specified for door surfaces.

### **3.6 Mechanical/Electrical Equipment**

- .1 Do not paint conduits , piping, hangers, ductwork and other mechanical and electrical equipment unless noted otherwise. Leave in original finish.

### **3.7 Site Tolerances**

- .1 Final coat to exhibit uniformity of colour and uniformity of sheen across full surface area.

### **3.8 Restoration**

- .1 Clean and re-install 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. Avoid scuffing newly applied paint.
- .5 Restore areas used for storage, cleaning, mixing and handling of paint to clean condition.

#### **PART 4 - MEASUREMENT AND PAYMENT**

##### **4.1 Method of Measurement and Payment**

- .1 Interior Painting
  - .1 The supply and installation of interior painting shall be considered incidental to the Contract Lump Sum Price for "Electrical Building".

**END OF SECTION**

## **PART 1 GENERAL**

### **1.1 Product Data**

- .1 Submit manufacturer's printed product literature, specifications and application instructions to Contract Administrator before commencing application.

### **1.2 Environmental Conditions**

- .1 Maintain ambient and structural base temperature at installation area within limits specified by coating manufacturer. Apply coating during dry weather. Do not apply coating to wet or damp surfaces.

### **1.3 Protection**

- .1 Protect plants and vegetation that might be damaged by coating. Protect surfaces not intended to have application of 1coatings. Provide adequate ventilation or isolation measures to protect against toxic fumes.

## **PART 2 - PRODUCTS**

### **2.1 Materials**

- .1 Graffiti-resistant coating: one component, water based, non-sacrificial, clear penetrating sealer and liquid repellent.
  - .1 Acceptable products: Fabrikem Fabrishield Paint Repellent PR-60 for precast concrete and PR-61 for clay brick.

## **PART 3 - EXECUTION**

### **3.1 Preparation**

- .1 Prepare and clean substrate surfaces in accordance with coating manufacturer's instructions.
- .2 Mix and prepare coatings to manufacturer's instructions.
- .3 Take moisture tests on substrates to receive coating to ensure moisture levels are within limits specified by coating manufacturer.

### **3.2 Application**

- .1 Apply coating using low pressure spraying apparatus, at recommended coverage rate for product and substrate.
- .2 Apply in uniform, even coat to fully wet substrate, without flooding or rundowns.
- .3 Allow area to dry completely before applying additional coats.

### **3.3 Schedule**

- .1 Apply graffiti-resistant coating to architectural precast concrete masonry units.

## **PART 4 - MEASUREMENT AND PAYMENT**

### **4.1 Method of Measurement and Payment**

#### **.1 Graffiti-Resistant Coatings**

- .1** The supply and installation of graffiti-resistant coatings shall be considered incidental to the Contract Lump Sum Price for "Electrical Building".

**END OF SECTION**