

**Part 1            General**

**1.1            RELATED SECTIONS**

- .1    Section 01 33 00 - Submittal Procedures.
- .2    Section 01 45 00 - Quality Control.
- .3    Section 01 61 00 - Common Product Requirements.
- .4    Section 01 78 00 - Closeout Submittals.

**1.2            REFERENCES**

- .1    Architectural Painting Specifications Manual, Master Painters Institute (MPI).
- .2    National Fire Code of Canada.
- .3    Room Finish Schedule on Drawings.

**1.3            QUALITY ASSURANCE**

- .1    Contractor shall have a minimum of four years proven satisfactory experience. When requested, provide a list of last three comparable jobs including, job name and location, specifying authority, and project manager.
- .2    Qualified journeymen who have a "Tradesman Qualification Certificate of Proficiency" shall be engaged in painting work. Apprentices may be employed provided they work under the direct supervision of a qualified journeyman in accordance with trade regulations.
- .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.) shall be in accordance with MPI Painting Specification Manual "Approved Product" listing and shall be from a single manufacturer for each system used.
- .5    Retain purchase orders, invoices and other documents to prove conformance with noted MPI requirements when requested by Consultant.
- .6    Standard of Acceptance:
  - .1    Final coat to exhibit uniformity of colour and uniformity of sheen across full surface area.

**1.4            SUBMITTALS**

- .1    Submit product data and manufacturer's installation/application instructions for each paint and coating product to be used in accordance with Section 01 33 00 - Submittal Procedures.
- .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 number[s].

.4 MPI Environmentally Friendly classification system rating.

.5 Manufacturer's Material Safety Data Sheets (MSDS).

### 1.5 EXTRA MATERIALS

.1 Submit maintenance materials in accordance with Section 01 78 00 - Closeout Submittals.

.2 Submit one - four litre can of each type and colour of primer, stain, finish coating. Identify colour and paint type in relation to established colour schedule and finish system.

.3 Deliver to Contractor and store where directed.

### 1.6 DELIVERY, HANDLING AND STORAGE

.1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.

.2 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.

.3 Remove damaged, opened and rejected materials from site.

.4 Provide and maintain dry, temperature controlled, secure storage.

.5 Observe manufacturer's recommendations for storage and handling.

.6 Store materials and supplies away from heat generating devices.

.7 Store materials and equipment in a well ventilated area with temperature range 7<sup>o</sup>C to 30<sup>o</sup>C.

.8 Store temperature sensitive products above minimum temperature as recommended by manufacturer.

.9 Keep areas used for storage, cleaning and preparation, clean and orderly to approval of Consultant. After completion of operations, return areas to clean condition to approval of Consultant.

.10 Remove paint materials from storage only in quantities required for same day use.

.11 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling storage, and disposal of hazardous materials.

.12 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 the National Fire Code of Canada.

## 1.7 SITE REQUIREMENTS

- .1 Heating, Ventilation and Lighting:
  - .1 Ventilate enclosed spaces.
  - .2 Perform no painting work unless 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 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.
  - .4 Perform no painting work unless a minimum lighting level of 323 Lux is provided on surfaces to be painted. Adequate lighting facilities shall be provided by General Contractor.
- .2 Temperature, Humidity and Substrate Moisture Content Levels:
  - .1 Unless specifically pre-approved by the specifying body, and the applied product manufacturer, perform no painting work when:
    - .1 Ambient air and substrate temperatures are below 10° C.
    - .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.
  - .2 Perform no painting work when the maximum moisture content of the substrate exceeds:
    - .1 12% for concrete and masonry (clay and concrete brick/block).
    - .2 15% for wood.
    - .3 12% for plaster and 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.

## 1.8 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. Information on

these controls can be obtained from Provincial Ministries of Environment and Regional levels of Government.

- .2 Material which 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 Close and seal tightly partly used sealant and adhesive containers and store protected in well ventilated fire-safe area at moderate temperature.

## 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 Paint materials for paint systems shall be products of a single manufacturer.

### 2.2 COLOURS

- .1 To be selected by Architect from Manufacturer's standard range.
- .2 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.
- .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 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 Consultant.
- .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 Category	Units @ 60°	Units @ 85°
G1 - matte finish	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

Gloss Level Category	Units @ 60°	Units @ 85°
G5 - semi-gloss finish	35 to 70	
G6 - gloss finish	70 to 85	
G7 - high gloss finish	> 85	

- .2 Gloss level ratings of painted surfaces shall be as specified herein and as noted on Finish Schedule.

## 2.5 PAINTING SYSTEMS (AS APPLICABLE)

- .1 Steel Doors and Frames, Steel Guards and Railings, stair stringers.  
.1 INT 5.3k-Premium: "W.B. Light Industrial Coating – gloss level – 5.

## Part 3 Execution

### 3.1 GENERAL

- .1 Perform preparation and operations for 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.

### 3.2 EXISTING CONDITIONS

- .1 Investigate existing substrates for problems related to proper and complete preparation of surfaces to be painted. Report to Consultant damages, defects, unsatisfactory or unfavourable conditions before proceeding with work.

### 3.3 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 Consultant.  
.2 Protect factory finished products and equipment.  
.3 As painting operations progress, place "WET PAINT" signs in occupied areas to approval of Consultant.

### 3.4 CLEANING AND PREPARATION

- .1 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 or compressed air.  
.2 Wash surfaces with a biodegradable detergent and bleach where applicable 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.  
.5 Prepare surfaces for water-based painting, water-based cleaners should be used in place of organic solvents.  
.6 Use trigger operated spray nozzles for water hoses.

- .7 Many water-based paints cannot be removed with water once dried. However, minimize the use of kerosene or any such organic solvents to clean up water-based paints.
- .2 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.
- .3 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.
- .4 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.
- .5 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.
- .6 Do not apply paint until prepared surfaces have been accepted by Consultant.

### 3.5 APPLICATION

- .1 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 Consultant.
  - .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 a uniform layer, with overlapping at edges of spray pattern.
  - .4 Brush out immediately all 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 Consultant.
- .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.

**3.6 RESTORATION**

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

**END OF SECTION**