

## **PART 1 - GENERAL**

### **1.1 SCOPE OF WORK**

- .1 All metal fabrications (including steel doors and frames) and new and existing interiors in the work area.
- .2 Consult plans.

### **1.2 RELATED SECTIONS**

- .1 Detention doors and frames Section 08 11 00

### **1.3 REFERENCE STANDARDS**

- .1 Unless otherwise indicated, perform painting and finishing work in accordance with CAN/CGSB 85.100-93.
- .2 Paint products must comply with Volatile Organic Compound (VOC) Concentration Limits for Architectural Coatings Regulations P.C. 2009-1535 under the *Canadian Environmental Protection Act, 1999*. Effective DORS/2009-264 September 9, 2009.

### **1.4 CONDITIONS**

- .1 Do not paint in locations where work that may produce dust is being performed.

### **1.5 COLOUR SCHEME AND COLOURS**

- .1 Prior to the start of painting, the Departmental Representative will provide a colour scheme.
- .2 The Departmental Representative will choose a range of colours.  
Colour: 6206-42 Crosshatch by Sico.

### **1.6 MONITORING AND TESTING**

- .1 The Departmental Representative reserves the right to require laboratory analyses, testing, trials or specialized studies on materials to be used or already incorporated into the work.

### **1.7 DATA SHEETS**

- .1 Provide a copy of data sheets for all products used.
- .2 Data sheets must provide a general description of the product and state the characteristics, methods of surface preparation and application, storage and use restrictions, finishes and any other relevant characteristics.
- .3 Attach a document issued by the manufacturer confirming that the products used meet the requirements in the specifications, particularly with respect to the standards specified therein.
- .4 Provide a copy of the standards set out in the sections describing surface preparation.

### **1.8 SAMPLES**

- .1 Provide two 200 mm x 200 mm (8" x 8") sample panels of each paint colour specified.
- .2 Submit data sheets and manufacturer's instructions for application or use of paints and products.
- .3 Submit a complete file for all products used. List products used in each system, specifying the following information:
  - Product name, type and use;
  - Manufacturer's product number;
  - Colour number;
  - MPI Environmentally Friendly rating system;
  - Manufacturer's printed product literature and data sheets.

### **1.9 QUALITY ASSURANCE**

- .1 Painting must be done by qualified workers holding a Tradesman's Qualification Certificate. Apprentices may be employed provided they work under the direct supervision of a qualified tradesperson in accordance with the regulations governing the trade.
- .2 Comply with latest MPI requirements for interior painting, including surface preparation, primer and sealer application.

- .3 All products, whether primers, sealers, paints, coatings, varnishes, stains, lacquers, fillers, thinners, solvents, etc., must be included on the MPI Architectural Painting Specification Manual Approved Products list; all products making up the chosen painting system must come from the same manufacturer. If primer and the finish paint are from different manufacturers, the finish paint manufacturer must provide prior written acceptance of the primer to comply with the guarantee in the contractual documents.
- .4 Other paint products, such as linseed oil, shellac and turpentine must be of very high quality and compatible with other coating materials, as required; such products must come from an approved manufacturer listed in the MPI Architectural Painting Specification Manual.
- .5 Keep all purchase orders, invoices and other documents needed to demonstrate, at the request of the Departmental Representative, that the work complies with MPI requirements.

#### 1.10 ADDITIONAL MATERIALS

- .1 Provide four litres of each type and colour of primer, sealer, stain and finish product. Identify colour and paint type according to specified colour list and painting system.

#### 1.11 DELIVERY

- .1 Materials must be pre-mixed at the factory and delivered to the site in their original containers; manufacturer's labels and seals must be intact. Label must indicate type of paint, colour, manufacturer's name, CGSB number and all requirements for mixing, dilution and application.

#### 1.12 STORAGE AND HANDLING

- .1 All materials must be stored in a well-ventilated location at a temperature above 5°C.
- .2 Labels must clearly indicate:
  - Manufacturer's name and address;
  - Type of paint or coating;
  - Compliance with relevant standards and requirements;
  - Colour number, according to list of specified colours.
- .3 Remove damaged, open or rejected materials and equipment from work site.
- .4 Provide and maintain a secure, dry, temperature-controlled storage area.
- .5 Follow manufacturer's recommendations regarding storage and handling.
- .6 Store materials and equipment away from heat sources.
- .7 Store materials and equipment in a well-ventilated area between 7°C and 30°C.
- .8 Storage temperature of temperature-sensitive materials and equipment should never be below manufacturer's recommended minimum temperature.
- .9 Keep storage, cleaning and preparation areas clean and orderly, to the satisfaction of the Departmental Representative; after completion of operations, return areas to clean condition, to the satisfaction of Departmental Representative.
- .10 Remove products from storage only in quantities required for same day use.
- .11 Meet WHMIS requirements with regard to use, storage, handling and disposal of hazardous materials.
- .12 Fire safety requirements:
  - Place one or more portable 9 kg dry chemical extinguishers adjacent to storage area.
  - Store oily rags, waste, empty containers and materials capable of spontaneous combustion in ULC approved sealed containers; remove containers from work site every day.
  - Handle, store, use and dispose of flammable and combustible materials in accordance with National Fire Code of Canada requirements.

#### 1.13 SURFACE AND ENVIRONMENTAL CONDITIONS (SEE ALSO SECTION 3.2)

- .1 Keep toxic or volatile materials in closed containers when not in use. Strictly comply with manufacturers' requirements for handling volatile solvents and thinners.
- .2 Protect from spatter and smears all devices, equipment, furniture, plumbing fixtures and piping with a permanent finish: glass surfaces, enamelled cast iron, polished bronze, nickel, copper, aluminum or stainless steel; remove electrical cover plates and surface hardware during painting; remove door silencers attached to door jambs.

- .3 Comply with manufacturers' requirements for ventilation and temperature of work site.
- .4 Do not paint in areas when dust is being generated by other work.
- .5 Before the start of painting, ensure that adequate, continuous ventilation can be maintained and that appropriate heating facilities can maintain the temperature of the air and the substrates above 10°C for at least 24 hours before the start of work, during work and for 24 hours following completion of work; if necessary, provide continuous ventilation for seven days following completion.
- .6 Provide and install temporary ventilating and heating equipment if install in cold weather.
- .7 Before the start of painting, ensure minimum lighting level of 323 Lux on surfaces to be painted. General Contractor shall provide adequate lighting equipment and systems if necessary.
- .8 Proceed with painting only in areas free from dust generated by related construction operations or when wind or ventilation conditions are such that airborne particles will not affect the quality of the finished surface.
- .9 Apply paint to adequately prepared surfaces within moisture limits specified in this section.
- .10 Apply paint when previous coat of paint is dry or adequately cured following minimum period specified by the manufacturer.
- .11 Re-mix paint in containers prior to and during application to ensure break-up of lumps, complete dispersion of settled pigment and uniform colour and gloss.
- .12 Apply paint outside only if weather conditions comply with manufacturer's recommendations for the entire period when paint is to be applied.
  - .1 If the surface to be painted is not sheltered, do not apply paint under the following conditions:
    - Substrate and air temperatures are below 5°C for alkyd resins and below 7°C for latex, or if the temperature is expected to fall to 0°C before paint is completely cured.
    - Substrate and air temperatures are outside the limits specified in the relevant standard and by the manufacturer.
    - Surface temperature is above 50°C, unless the paint is designed for use at high temperatures.
    - Snow or rain is expected before the paint is completely dry; under conditions of fog, mist, rain or snow; relative humidity is over 85%.
    - Surface is damp, wet with condensation or frost.
    - Previous coat is not dry.

#### 1.14 WASTE MANAGEMENT

- .1 Paints, stains, wood preservatives and other products used in the application of these coatings (thinners, solvents, etc.) must be treated as hazardous materials and disposed of in accordance with regulations. Information on applicable legislation may be obtained from provincial environment departments and government agencies in the region.
- .2 Products that cannot be reused must be treated as hazardous waste and disposed of appropriately.
- .3 Place toxic or dangerous materials and equipment, including used tubes and containers of adhesives and sealants in areas or receptacles designated for that purpose.
- .4 To reduce the amount of contaminants entering watercourses, sanitary/storm drain systems or the soil, the following procedures must be strictly followed:
  - Retain water used for water-based paints and other products to be filtered for sediments.
  - Keep cleaning products, thinners and excess paint in containers designed for that purpose, and dispose of appropriately.
  - Keep oil or solvent-soaked rags used during the painting operations for appropriate cleaning or disposal as required.
  - Dispose of contaminants in accordance with regulations governing hazardous waste.
  - Leave empty paint cans to dry before disposal or recycling (where appropriate facilities exist).
- .5 Where paint recycling is available, collect excess paint by product type and arrange for delivery to a collection or recycling facility.
- .6 Carefully close and seal partly used adhesive and sealant containers, store at moderate temperatures in a well-ventilated and fireproof location.

#### 1.15 PAINT MANUFACTURER

- .1 The Departmental Representative shall submit a choice of colours from one or more manufacturers.

If the manufacturer chosen by the Departmental Representative is not the same as that submitted by the Contractor, the Contractor shall have the colours chosen by the Departmental Representative custom manufactured and submit samples for approval by the Departmental Representative including the finish chosen by the latter.

#### 1.16 ITEMS WITH FACTORY-APPLIED FINISH

- .1 Unless otherwise indicated at the site or in the drawings or finish chart, do not paint items with an existing factory-applied finish.

#### 1.17 WARRANTY

- .1 Upon completion of the work described in the specifications and prior to final inspection, the Contractor shall provide the Departmental Representative with a written guarantee covering all cracking, discoloration, blistering or loss of adhesion that occurs within one year from the date of the Certificate of Final Acceptance of the work.

#### 1.18 GENERAL GUIDELINES FOR PAINTING SYSTEMS

- .1 The systems described above are not exhaustive. The Contractor is responsible for submitting a proposal for any surface not listed or for an existing surface to be repainted, and for preparation and application in accordance with the systems approved by the Professional and in accordance with manufacturer's recommendations for approved materials.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS

- .1 Use painting materials that comply with CGSB standards included in the list of finish paint systems.
- .2 Materials for each coat of paint that is part of a painting process must come from a single manufacturer.
- .3 Brand: SICO paint or equivalent approved by Departmental Representative.
- .4 Paint finishes:
  - .1 Metal doors and frames: semi-gloss (50%).
  - .2 Other: details provided by Departmental Representative on site.

#### 2.2 EXTERIOR FINISH SYSTEM

- .1 **System 1: New exterior steel doors and frames:**
  - Clean new galvanized metal with a phosphoric acid based compound such as Corrostop Ultra #635-104 or Rust-Oleum PURE STRENGTH 3500 or approved equivalent, rinse and dry.
  - One coat of single-component water-borne acrylic primer such as Rust-Oleum GRIPTEC Sierra Performance or Benjamin-Moore SUPER-SPEC-KP04 or approved equivalent.
  - Followed by minimum two coats of single-component acrylic urethane paint such as Rust-Oleum Sierra Performance S37-METALMAX or approved equivalent with the following characteristics:
    - ✓ Gloss finish;
    - ✓ Water-based;
    - ✓ VOC = 0

#### **General notes:**

1. Some colours may require three coats or more of finish paint to obtain the expected result and approval of the Departmental Representative. However, for dark colours or low cover pigmentation, use a tinted primer such as POLYPREP 4 (145-044) or pre-approved equivalent recommended by the manufacturer to reduce the number of coats and promote adhesion. Some colour charts clearly indicate whether a colour has a lower covering capacity and, therefore, recommend a tinted primer. Such information is provided by manufacturers and is available to painting contractors; no claim for additional work arising from the number of coats of paint required will be admissible.
2. Graffiti and other pencil markings: Cover with POLYPREP 2 (145-022) primer or pre-approved equivalent.

**Legend:**

MPI: Master Painters Institute.  
CGSB: Canadian General Standards Board.  
VOC: Volatile Organic Compounds.  
GS: Green Seal  
TSP: Trisodium phosphate.

**PART 3 - EXECUTION**

**3.1 GENERAL**

- .1 Unless otherwise indicated, prepare interior surfaces and carry out painting in accordance with the requirements of the MPI Architectural Painting Specifications Manual.
- .2 Apply paint products in accordance with manufacturer's written instructions.
- .3 Start of work indicates acceptance of surfaces to be painted.

**3.2 EXISTING CONDITIONS**

- .1 Examine substrates to determine whether conditions may compromise proper surface preparation. Prior to the start of work, inform the architect of any damage, defects, unsatisfactory or unfavourable conditions.
- .2 Perform tests to monitor the moisture content of surfaces with a properly calibrated moisture meter. Do not start work before substrate conditions have been judged acceptable within the range of values recommended by the manufacturer.

**3.3 PROTECTION OF PROPERTY**

- .1 Protect adjacent surfaces that are not to be painted from dust, flecks, markings and other damage with suitable non-staining covers or masking. If damaged, clean and restore surfaces as directed by the Departmental Representative.
- .2 Protect items that are permanently attached such as fire labels on doors and frames.
- .3 Protect factory-finished products and equipment.
- .4 Protect occupants and general public in and about the building.
- .5 Before the start of work, protect or remove electrical cover plates, light fixtures, surface hardware on doors and other surface mounted equipment, fittings and fastenings. Identify and store items in a secure location and re-install once painting is completed.
- .6 Place WET PAINT signs, ropes, barriers, cones or other devices around or near freshly painted surfaces.
- .7 Soiled or damaged surfaces or equipment must be cleaned, repaired or replaced, as necessary, at the Contractor's expense and to the approval of the Departmental Representative or project Departmental Representative.

**3.4 CLEANING AND REPAIR**

- .1 Clean and repair surfaces in accordance with the requirements set out in the MPI Architectural Painting Specification Manual. Consult this document for specific requirements supplementary to the instructions below.
  - Remove dust, dirt and other surface debris by wiping with clean, dry cloths (and vacuuming or sweeping with a jet of compressed air).
  - Wash all surfaces with a trisodium phosphate (TSP) solution.
  - Rinse scrubbed surfaces with clean water to remove all foreign matter.
  - Allow surfaces to drain and dry thoroughly.
  - Prepare surfaces for water-based painting with water-based cleaners rather than organic solvents.
  - Use trigger operated spray nozzles for water hoses.
  - Many water-based paints cannot be removed with water once dried; minimize use of kerosene or other organic solvents to clean up water-based paints.
- .2 Prepare surfaces in accordance with manufacturers' written product requirements and with the requirements below.
  - .1 Touch up bare spots on factory-primed structural steel with a product that complies with CGSB 1-GP-40d, in accordance with 85-GP-14a.
  - .2 Prepare galvanized or zinc-plated steel surfaces in accordance with CGSB 85-GP-16.

### 3.5 SPECIAL PREPARATIONS (where required)

- .1 New steel structures: touch up factory-primed surfaces in accordance with the requirements of the relevant section. Major spot priming, including cleaning and painting of assemblies produced on site, welds, rivets, bolts, nuts, washers and rusted surfaces with deficient coating, must be performed by the supplier of the components in question.

### 3.6 APPLICATION

- .1 Unless otherwise indicated, apply products in accordance with manufacturer's instructions.
- .2 Apply paint with a roller; however, brushwork will be required throughout.. Use tape to divide changes in colour or finish paint.
- .3 Brush and roller application:
  - Apply paint in uniform coat using a suitable brush or roller.
  - Work paint into cracks, crevices and corners.
  - Paint surfaces and corners not accessible to brushes with a paint gun, daubers or sheepskins. Paint surfaces and corners not accessible to rollers with brushes, daubers or sheepskins.
  - Rolled surfaces must be free of roller tracking and excess paint unless approved by the consultant.
  - Remove runs, sags and brush marks from finished work and repaint.
- .4 Use dipping, sheepskins or daubers only when no other method is practical in places of difficult access.
- .5 Apply coats of paint in 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 cure properly after cleaning and between subsequent coats for minimum period recommended by manufacturer.
- .7 Sand and dust between coats to remove dirt from the previous coat and to remove defects visible from five feet.
- .8 Divisions between painted surfaces must be tidy, clean and straight. Use masking tape as needed.
- .9 All materials must be carefully applied and separated to dry evenly and produce the colour and finish specified free of runs, shiny spots, irregularities and brush marks.
- .10 Following inspection by the Departmental Representative, repaint at no additional charge work judged unsatisfactory.
- .11 Allow for a minimum of three coats of paint on each surface. Apply additional coats until tone and colour value, as per approved sample, has been achieved.
- .12 Do not paint over door hardware and frame silencers.
- .13 Remove door silencers on jambs or frame rails and replace after painting.

### 3.7 MECHANICAL / ELECTRICAL EQUIPMENT

- .1 Paint piping, electrical and ventilation ductwork, brackets and hangers and other visible interior mechanical and electrical items to match adjacent surfaces, except as indicated.
- .2 Do not paint over nameplates, sprinkler heads or factory-finished housings approved by the Departmental Representative.

### 3.8 RESTORATION

- .1 Clean and re-install all hardware items removed to facilitate painting operations.
- .2 Remove protective coverings and warning signs as soon as practical after operations cease.
- .3 Remove paint splashes and plaster dust from exposed surfaces that were not painted. Remove smears and spatter immediately as operations progress.
- .4 Use a damp mop for final cleaning of floors in all areas where painting was performed.
- .5 Protect freshly painted surfaces from paint runs and dust to the satisfaction of the Departmental Representative. Avoid scuffing newly applied paint.
- .6 Restore areas used for storage, cleaning, mixing and handling of paint and for cleaning tools and equipment to their original state of cleanliness to the satisfaction of the Departmental Representative.

END OF SECTION