1 GENERAL

1.01 REFERENCE STANDARDS

.1 American Society for Testing and Materials (ASTM)
  .1 ASTM C645 – Standard Specification for Nonstructural Steel Framing Members

1.02 DELIVERY, STORAGE AND HANDLING

.1 Deliver, store and handle materials in accordance with manufacturer's written instructions.

.2 Store materials indoors and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.

2 PRODUCTS

2.01 MATERIALS

.1 Non-load bearing channel stud framing: to ASTM C645, roll formed from 0.53mm (26 gauge) thickness hot dipped galvanized steel sheet, for screw attachment of gypsum board.

.2 Curb framing shall have minimum 1.2mm (18 gauge) thickness, unless noted otherwise.

.3 Metal channel stiffener: 38mm x 10mm (1.5” x 3/8”) size, 1.4mm (18 gauge) thick cold rolled steel, coated with rust inhibitive coating.

3 EXECUTION

3.01 ERECTION

.1 Align partition tracks at floor and ceiling and secure at 600mm (2ft) on centre maximum.

.2 Install damp proof course under stud shoe tracks of partitions on slabs on grade.

.3 Place studs vertically at spacing indicated and not more than 50mm (2”) from abutting walls, and at each side of openings and corners.
  .1 Position studs in tracks at floor and ceiling. Cross brace steel studs as required to provide rigid installation to manufacturer's instructions.

.4 Erect metal studding to tolerance of 1:1000.

.5 Attach studs to bottom track using screws.

.6 Co-ordinate simultaneous erection of studs with installation of service lines. When erecting studs ensure web openings are aligned.

.7 Co-ordinate erection of studs with installation of special supports or anchorage for Work specified in other sections.

.8 Install continuous insulating strips to isolate studs from uninsulated surfaces.

END OF SECTION

1 GENERAL

1.01 REFERENCE STANDARDS

.1 Master Painters Institute (MPI)
  .1 MPI Architectural Painting Specification Manual (ASM)

.2 Society for Protective Coatings (SSPC)
  .1 SSPC Painting Manual, Systems and Specifications Manual

.3 South Coast Air Quality Management District (SCAQMD)
  .1 SCAQMD Rule 1113 – Architectural Coatings

1.02 ADMINISTRATIVE REQUIREMENTS

.1 Scheduling:
  .1 Submit Work schedule for various stages of painting to Contract Administrator for review. Provide schedule minimum of 48 hours in advance of proposed operations.
  .2 Obtain written authorization from Contract Administrator for changes in Work schedule.
  .3 Schedule interior painting operations to prevent disruption of occupants in and about the building.

1.03 ACTION AND INFORMATIONAL SUBMITTALS

.1 Provide product data and samples in accordance with Section 01 33 00 - Submittal Procedures.

.2 Product data: submit list of brand name products that Contractor intends to use on each part of the Work.

1.04 CLOSEOUT SUBMITTALS

.1 Provide in accordance with Section 01 78 00 - Closeout Submittals.

.2 Operation and maintenance data: provide operation and maintenance data for incorporation into manual.

.3 Provide 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 numbers.
  .4 MPI Environmentally Friendly classification system rating.
  .5 Manufacturer's Material Safety Data Sheets (MSDS).

.4 Extra stock materials:
.1 Submit one (1) 4-litre container of each type and colour of finish coating. Identify colour and paint type in relation to established colour schedule and finish system.

1.05 QUALITY ASSURANCE

.1 Qualifications: minimum of five (5) years proven satisfactory experience specializing in commercial painting and finishing. When requested, provide list of last three (3) comparable jobs including, job name and location, owner and project manager, contractor, start and completion dates, and value of painting Work.
.1 Use only qualified journeypersons as defined by local jurisdiction to be engaged in painting Work.
.2 Apprentices: may be employed provided they work under direct supervision of qualified journeyperson in accordance with trade regulations.

.2 Conform to latest MPI requirements for painting Work including preparation and priming.

.3 Retain purchase orders, invoices and other documents to prove conformance with noted MPI requirements when requested by Contract Administrator.

1.06 DELIVERY, STORAGE AND HANDLING

.1 Deliver materials to site in original factory packaging, sealed with labels intact. 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.

.2 Storage and handling requirements:
.1 Observe manufacturer's recommendations for storage and handling.
.2 Store materials and supplies away from heat generating devices.
.3 Store materials and equipment in well ventilated area with temperature range 7 degrees C to 30 degrees C.
.4 Keep areas used for storage, cleaning and preparation, clean and orderly to approval of Contract Administrator. After completion of operations, return areas to clean condition to approval of Contract Administrator.
.5 Remove paint materials from storage only in quantities required for same day use.
.6 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling storage, and disposal of hazardous materials.
.7 Fire safety requirements:
.1 Provide one (1) 9kg Type ABC 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 (NFC).

1.07 SITE CONDITIONS

.1 Heating, ventilation and lighting:

.1 Ventilate enclosed spaces.

.2 Provide temporary 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.

.3 Provide continuous ventilation for seven (7) days after completion of application of paint.

.4 Co-ordinate use of existing ventilation system with The City and ensure its operation during and after application of paint as required.

.5 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.

.6 Provide minimum lighting level of 323 Lux on surfaces to be painted.

.2 Temperature, humidity and substrate moisture content levels:

.1 Do not paint unless sufficient heating facilities are in place to maintain ambient air and substrate temperatures above 15 degrees C for 24 hours before, during and after paint application until paint has cured sufficiently.

.2 Do not paint when:

.1 Substrate temperature is above 32 degrees C, unless paint is specifically formulated for application at high temperatures.

.2 Substrate and ambient air temperatures are expected to fall outside of MPI or paint manufacturer's prescribed limits.

.3 Relative humidity is above 85% or when the dew point is less than 3 degrees C variance between the air/surface temperature.

.3 Do not paint when maximum moisture content of the substrate exceeds:

.1 15% for wood.

.2 12% for gypsum board.

.4 Test for moisture using calibrated electronic Moisture Meter.

.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.

.4 Additional interior application requirements:
.1 Apply paint finishes when temperature at location of installation can be satisfactorily maintained within manufacturer's recommendations.

.5 Additional exterior application requirements:
.1 Apply paint finishes when conditions forecast for entire period of application fall within manufacturer's recommendations.
.2 Do not paint when rain or snow are forecast to occur before paint has thoroughly cured or when it is foggy, misty, raining or snowing at site.
.3 Ensure that conditions are within specified limits during drying or curing process, until newly applied coating can itself withstand 'normal' adverse environmental factors.

2 PRODUCTS

2.01 MATERIALS

.1 Paint materials listed in the latest edition of the MPI Approved Products List (APL) are acceptable for use on this project.

.2 Materials (primers, paints, coatings, fillers, thinners, solvents, etc.): highest quality product of MPI listed manufacturer, and from a single manufacturer for each system used.

.2 Other materials, such as linseed oil, shellac, turpentine: highest quality product of an MPI listed manufacturer, compatible with paint materials being used.

.3 All materials used shall be lead and mercury free, and shall be low or no VOC content where possible.

.4 Conform to latest MPI requirements for interior painting work including preparation and priming.

.5 Paints to have good flowing and brushing properties and be capable of drying or curing free of streaks or sags.

2.02 COLOURS

.1 Contract Administrator will provide Colour Schedule after Contract award.

.2 Selection of colours will be from manufacturers full range of colours.

.3 Where specific products are available in restricted range of colours, selection based on limited range.

.4 Second coat in three (3) coat system to be tinted slightly lighter colour than top coat to show visible difference between coats.

.5 For deep and ultra deep colours; four (4) coats may be required.

2.03 MIXING AND TINTING

.1 Perform colour tinting operations prior to delivery of paint to site. 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 Mix paste, powder or catalyzed paint mixes in accordance with manufacturer's written instructions.

.3 Use and add thinner in accordance with paint manufacturer's recommendations. Do not use kerosene or similar organic solvents to thin water-based paints.

.4 Thin paint for spraying in accordance with paint manufacturer's instructions. If directions are not on container, obtain instructions in writing from manufacturer and provide copy of instructions to Contract Administrator.

2.04 GLOSS/SHEEN RATINGS

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

Gloss Level	Description	Gloss @ 60 degrees	Sheen @ 85 degrees
G1	Matte or Flat finish	0 to 5	10 max.
G2	Velvet finish	0 to 10	10 to 35
G3	Eggshell finish	10 to 25	10 to 35
G4	Satin finish	20 to 35	35 min.
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 as indicated.

2.05 EXTERIOR PAINTING SYSTEMS

.1 Structural steel and metal fabrications:
- .1 EXT 5.1D-G5

.2 Galvanized metal fabrications:
- .1 EXT 5.3B-G5 (typical)
- .2 EXT 5.3E (bituminous paint)

2.06 EXTERIOR REPAINTING SYSTEMS

.1 Structural steel and metal fabrications:
- .1 REX 5.1D-G5

.2 Galvanized metal fabrications:
- .1 REX 5.3B-G5 (typical)

3 EXECUTION

3.01 CONDITIONS OF SURFACES

.1 Thoroughly examine all surfaces scheduled to be painted prior to commencement of Work. Report in writing to the Contract Administrator any condition that may potentially affect proper application. Do not commence until all such defects have been corrected.

.2 Be responsible for the condition of surfaces or for correcting defects and deficiencies in the surfaces, which may adversely affect Work of this section.

3.02 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 Contract Administrator.
- .2 Protect items that are permanently attached such as Fire Labels on doors and frames.
- .3 Protect factory finished products and equipment.
- .4 Protect passing pedestrians, building occupants and general public in and about the building.

.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 Contract Administrator.

.3 Clean and prepare surfaces in accordance with MPI Architectural 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.

.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.

.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 1000mm.

.6 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 or vacuum cleaning.

.7 Touch up of shop primers with primer as specified.

.8 Do not apply paint until prepared surfaces have been accepted by Contract Administrator.

3.03 APPLICATION

.1 Apply paint and other finishes in accordance with MPI Painting Manual Premium Grade finish requirements.

.2 Method of application to be as approved by Contract Administrator. Apply paint by brush or roller. Conform to manufacturer's application instructions, unless specified otherwise.

.3 Brush and roller application:

.1 Apply paint in uniform layer using brush 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 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.

.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.

3.04 MECHANICAL/ ELECTRICAL EQUIPMENT

.1 Paint finished area exposed conduits, piping, hangers, ductwork and other mechanical and electrical equipment with colour and finish to match adjacent surfaces, except as indicated.

.2 Boiler room, mechanical and electrical rooms: paint exposed conduits, piping, hangers, ductwork and other mechanical and electrical equipment.

.3 Other unfinished areas: leave exposed conduits, piping, hangers, ductwork and other mechanical and electrical equipment in original finish and touch up scratches and marks.

.4 Do not paint over nameplates.

.5 Keep sprinkler heads free of paint.

.6 Paint inside of ductwork where visible behind grilles, registers and diffusers with primer and one coat of matt black paint.

.7 Paint disconnect switches for fire alarm system and exit light systems in red enamel.

.8 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.

.9 Do not paint interior transformers and substation equipment.

3.05 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 to approval of Contract Administrator. Avoid scuffing newly applied paint.

.5 Restore areas used for storage, cleaning, mixing and handling of paint to clean condition as approved by Contract Administrator.

END OF SECTION