

PART 1 - GENERAL

1.1 REFERENCE
STANDARDS

- .1 Canada Green Building Council (CaGBC)
 - .1 LEED Canada 2009 for Design and Construction-2010, LEED Canada 2009 for Design and Construction Leadership in Energy and Environmental Design Green Building Rating System Reference Guide.
- .2 Environmental Protection Agency (EPA)
 - .1 Test Method for Measuring Total Volatile Organic Compound Content of Consumer Products, EPA Method 24 - Surface Coatings.
 - .2 SW-846, Test Method for Evaluating Solid Waste, Physical/Chemical Methods.
- .3 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .4 Master Painters Institute (MPI)
 - .1 Architectural Painting Specification Manual - current edition.
 - .2 Standard GPS-1-current edition, MPI Green Performance Standard.
 - .3 Standard GPS-2-current edition, MPI Green Performance Standard.
 - .4 MPI X-Green Performance Standard.
- .5 National Research Council Canada (NRC)
 - .1 National Fire Code of Canada 2015 (NFC).
- .6 Society for Protective Coatings (SSPC)
 - .1 Systems and Specifications, SSPC Painting Manual 2011.
- .7 South Coast Air Quality Management District (SCAQMD), California State, Regulation XI.
 - .1 SCAQMD Rule 1113-A2007, Architectural Coatings.

1.2 ADMINISTRATIVE
REQUIREMENTS

- .1 Scheduling
 - .1 Provide work schedule for various stages of painting to Departmental Representative for approval. Provide schedule minimum of 48 hours in advance of proposed operations.
 - .2 Obtain written authorization from Departmental Representative for changes in work schedule.

- 1.2 ADMINISTRATIVE .1 (Cont'd)
REQUIREMENTS .3 Schedule new additions to existing building
(Cont'd) coordinate painting operations with other trades.
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- 1.3 ACTION AND .1 Provide in accordance with Section 01 33 00 -
INFORMATIONAL Submittal Procedures.
SUBMITTALS .2 Product Data:
.1 Provide manufacturer's instructions, printed
product literature and data sheets for paint and
paint products and include product characteristics,
performance criteria, physical size, finish and
limitations.
.2 Submit electronic copies of WHMIS MSDS in
accordance with Section 01 35 29.06 - Health and
Safety Requirements.
.3 Confirm products to be used are in MPI's
approved product list.
.4 Upon completion, 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).
.6 MPI system numbers.
- .3 Samples:
.1 Provide 200 x 300 mm sample panels of each
paint with specified paint or coating in colours,
gloss/sheen and textures required to MPI
Architectural Painting Specification Manual standards
submitted on following substrate materials:
.1 3 mm plate steel for finishes over metal
surfaces.
.2 13 mm birch plywood for finishes over wood
surfaces.
.3 50 mm concrete block for finishes over
concrete or concrete masonry surfaces.
.4 13 mm gypsum board for finishes over
gypsum board and other smooth surfaces.
.5 10 mm plywood for finishes over wood
surfaces.
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1.3 ACTION AND
INFORMATIONAL
SUBMITTALS
(Cont'd)

- .3 Samples: (Cont'd)
 - .2 When approved, samples shall become acceptable standard of quality for appropriate on-site surface with one of each sample retained on-site.
 - .3 Provide full range of available colours.
- .4 Sustainable Design Submittals:
 - .1 LEED Canada submittals: in accordance with Section 01 35 21 - LEED Requirements.

1.4 CLOSEOUT
SUBMITTALS

- .1 Provide in accordance with Section 01 78 00 - Closeout Submittals.
- .2 Operation and Maintenance Data: Provide operation and maintenance data for painting materials for incorporation into manual.
- .3 Include :
 - .1 Product name, type and use.
 - .2 Manufacturer's product number.
 - .3 Colour numbers.
 - .4 MPI Environmentally Friendly classification system rating.

1.5 QUALITY
ASSURANCE

- .1 Qualifications:
 - .1 Contractor: to have a minimum of 5 years proven satisfactory experience. When requested, provide list of last 3 comparable jobs including, job name and location, specifying authority, and project manager.
 - .2 Qualified journeypersons as defined by local jurisdiction to be engaged in painting work
 - .3 Apprentices: may be employed provided they work under direct supervision of qualified journeyperson in accordance with trade regulations.
 - .4 Conform to latest MPI requirements for painting work including preparation and priming.
 - .5 Materials: in accordance with MPI Painting Specification Manual "Approved Product" listing and from a single manufacturer for each system used.
 - .6 Retain purchase orders, invoices and documents to prove conformance with noted MPI requirements when requested by Departmental Representative.
 - .7 Standard of Acceptance:
 - .1 Walls: no defects visible from a distance of 1000 mm at 90 degrees to surface.

1.5 QUALITY
ASSURANCE
(Cont'd)

- .1 Qualifications: (Cont'd)
 - .7 Standard of Acceptance: (Cont'd)
 - .2 Soffits: no defects visible from floor at 45 degrees to surface when viewed using final lighting source.
 - .3 Final coat to exhibit uniformity of colour and uniformity of sheen across full surface area.
 - .2 Mock-Ups:
 - .1 When requested by Departmental Representative or Paint Inspection Agency, prepare and paint designated surface, area, room or item to requirements specified herein, with specified paint or coating showing selected colours, number of coats, gloss/sheen, textures and quality of work to MPI Painting Specification Manual standards for review and approval.
 - .2 Construct mock-ups in accordance with Section 01 45 00 - Quality Control.
 - .1 When required by Departmental Representative, prepare and paint designated surface, area, room or item (in each colour scheme) to specified requirements, with specified paint or coating showing selected colours, gloss/sheen, textures.
 - .2 Mock-up will be used:
 - .1 To judge quality of work, substrate preparation, operation of equipment and material application and skill to MPI Architectural Painting Specification Manual standards.
 - .3 Locate where directed.
 - .4 Allow 24 hours for inspection of mock-up before proceeding with Work.
 - .5 When accepted, mock-up will demonstrate minimum standard of quality required for this work. Approved mock-up may remain as part of finished work.

1.6 DELIVERY,
STORAGE AND
HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.

1.6 DELIVERY,
STORAGE AND
HANDLING
(Cont'd)

- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
 - .1 Labels: to indicate:
 - .1 Type of paint or coating.
 - .2 Compliance with applicable standard.
 - .3 Colour number in accordance with established colour schedule.
- .3 Storage and Handling Requirements:
 - .1 Store materials off ground, indoors and in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Observe manufacturer's recommendations for storage and handling.
 - .3 Store materials and supplies away from heat generating devices.
 - .4 Store materials and equipment in well ventilated area with temperature range 7 degrees C to 30 degrees C.
 - .5 Keep areas used for storage, cleaning and preparation, clean and orderly to approval of Departmental Representative. After completion of operations, return areas to clean condition to approval of Departmental Representative.
 - .6 Remove paint materials from storage only in quantities required for same day use.
 - .7 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling storage, and disposal of hazardous materials.
 - .8 Fire Safety Requirements:
 - .1 Provide one 9 kg 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).
 - .9 Replace defective or damaged materials with new.
- .4 Develop Construction Waste Management Plan related to Work of this Section and in accordance with Section 01 35 21 - LEED Requirements.

- 1.6 DELIVERY, STORAGE AND HANDLING
(Cont'd)
- .5 Packaging Waste Management: remove for reuse or return of pallets, crates, padding, banding, and packaging materials as specified in Construction Waste Management Plan in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal and Section 01 35 21 - LEED Requirements.
- 1.7 SITE CONDITIONS
- .1 Ambient Conditions:
- .1 Heating, Ventilation and Lighting:
- .1 Ventilate enclosed spaces.
- .2 Do not perform painting work unless adequate and continuous ventilation and sufficient heating facilities are in place 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 Where required, provide continuous ventilation for seven days after completion of application of paint.
- .4 Co-ordinate use of existing ventilation system with Departmental Representative 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 Perform no painting work unless a minimum lighting level of 323 Lux is provided on surfaces to be painted. Adequate lighting facilities to be provided by General Contractor.
- .2 Temperature, Humidity and Substrate Moisture Content Levels:
- .1 Unless specifically pre-approved by specifying body, Paint Inspection Agency and, applied product manufacturer, perform no painting work when:
- .1 Ambient air and substrate temperatures are below 10 degrees C.
- .2 Substrate temperature is over [32] degrees C unless paint is specifically formulated for application at high temperatures.
- .3 Substrate and ambient air temperatures are expected to fall outside
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1.7 SITE CONDITIONS .1 (Cont'd)
(Cont'd) .2 (Cont'd)

MPI or paint manufacturer's prescribed limits.

.4 Relative humidity is above 85 % or when dew point is less than 3 degrees C variance between 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 maximum moisture content of substrate exceeds:

.1 12% for concrete and masonry (clay and concrete brick/block).

.2 15% for hard wood.

.3 17% for soft wood.

.4 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 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 to adequately prepared surfaces and to surfaces within moisture limits noted herein.

.3 Apply paint when previous coat of paint is dry or adequately cured.

.4 Apply paint finishes when conditions forecast for entire period of application fall within manufacturer's recommendations.

.5 Do not apply paint when:

.1 Temperature is expected to drop below 10 degrees C before paint has thoroughly cured.

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

.3 Surface to be painted is wet, damp or frosted.

- 1.7 SITE CONDITIONS .1 (Cont'd)
(Cont'd)
- .3 Application Requirements:(Cont'd)
- .6 Provide and maintain cover when paint must be applied in damp or cold weather. Heat substrates and surrounding air to comply with temperature and humidity conditions specified by manufacturer. Protect until paint is dry or until weather conditions are suitable.
- .7 Schedule painting operations such that surfaces exposed to direct, intense sunlight are scheduled for completion during early morning.
- .8 Remove paint from areas which have been exposed to freezing, excess humidity, rain, snow or condensation. Prepare surface again and repaint.
- .9 Paint occupied facilities in accordance with approved schedule 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 PERFORMANCE REQUIREMENTS .1 Environmental Performance Requirements:
- .1 Provide paint products meeting MPI "Environmentally Friendly" E3 ratings based on VOC (EPA Method 24) content levels.
- .2 Green Performance in accordance with MPI Standard GPS-1, GPS-2 and X-Green.
- .3 VOC limit maximum to SCAQMD Rule 1113.
- 2.2 MATERIALS .1 Only paint materials listed in latest edition of MPI Approved Products List (APL) are acceptable for use on this project.
- .2 Paint materials for paint systems: to be products of single manufacturer.
- .3 Only qualified products with E3 "Environmentally Friendly" X-Green ratings are acceptable for use on this project.
- .4 Use only MPI listed L rated materials.

2.2 MATERIALS
(Cont'd)

- .5 Paints, coatings, adhesives, solvents, cleaners, lubricants, and other fluids, to be as follows:
 - .1 Be non-flammable.
 - .2 Be manufactured without compounds which contribute to ozone depletion in upper atmosphere.
 - .3 Be manufactured without compounds which contribute to smog in the lower atmosphere.
 - .4 Do not contain methylene chloride, chlorinated hydrocarbons, toxic metal pigments.
- .6 Water-borne surface coatings must be manufactured and transported in a manner that steps of processes, including disposal of waste products arising there from, will meet requirements of applicable governmental acts, by-laws and regulations including, for facilities located in Canada, Fisheries Act and Canadian Environmental Protection Act (CEPA).
- .7 Water-borne surface coatings must not be formulated or manufactured with aromatic solvents, formaldehyde, halogenated solvents, mercury, lead, cadmium, hexavalent chromium or their compounds.
- .8 Water-borne surface coatings and recycled water-borne surface coatings must have flash point of 61.0 degrees C or greater.
- .9 Both water-borne surface coatings and recycled water-borne surface coatings must be made by a process that does not release:
 - .1 Matter in undiluted production plant effluent generating a 'Biochemical Oxygen Demand' (BOD) in excess of 15 mg/L to a natural watercourse or a sewage treatment facility lacking secondary treatment.
 - .2 Total Suspended Solids (TSS) in undiluted production plant effluent in excess of 15 mg/L to a natural watercourse or a sewage treatment facility lacking secondary treatment.
- .10 Water-borne paints and stains, recycled water-borne surface coatings and water borne varnishes must meet a minimum "Environmentally Friendly" E2 rating.
- .11 Recycled water-borne surface coatings must contain 50 % post-consumer material by volume.

2.2 MATERIALS
(Cont'd)

- .12 Recycled water-borne surface coatings must not contain:
- .1 Lead in excess of 600.0 ppm weight/weight total solids.
 - .2 Mercury in excess of 50.0 ppm weight/weight total product.
 - .3 Cadmium in excess of 1.0 ppm weight/weight total product.
 - .4 Hexavalent chromium in excess of 3.0 ppm weight/weight total product.
 - .5 Organochlorines or polychlorinated biphenyls (PCBS) in excess of 1.0 ppm weight/weight total product.
- .13 The following must be performed on each batch of consolidated post-consumer material before surface coating is reformulated and canned. These tests must be performed at a laboratory or facility which has been accredited by the Standards Council of Canada.
- .1 Lead, cadmium and chromium are to be determined using ICP-AES (Inductively Coupled Plasma - Atomic Emission Spectroscopy) technique no. 6010 as defined in EPA SW-846.
 - .2 Mercury is to be determined by Cold Vapour Atomic Absorption Spectroscopy using Technique no. 7471 as defined in EPA SW-846.
 - .3 Organochlorines and PCBs are to be determined by Gas Chromatography using Technique no. 8081 as defined in EPA SW-846.

2.3 COLOURS

- .1 Departmental Representative will provide Colour Schedule after Contract award.
- .2 Colour schedule will be based upon selection of 5 base colours and 3 accent colours. No more than 8 colours will be selected for entire project and no more than 3 colours will be selected in each area.
- .3 Selection of colours will be from manufacturers' full range of colours.
- .4 Where specific products are available in restricted range of colours, selection will be based on limited range.
- .5 Second coat in three coat system to be tinted slightly lighter colour than top coat to show visible

- 2.3 COLOURS (Cont'd)
- .5 (Cont'd)
difference between coats if requested by Departmental Representative.
 - .6 For deep and ultra deep colours 4 coats may be required.

- 2.4 MIXING AND TINTING
- .1 Perform colour tinting operations prior to delivery of paint to site. On-site tinting of painting materials is allowed only with Departmental Representative's written permission.
 - .2 Mix paste, powder or catalyzed paint mixes in accordance with manufacturer's written instructions.
 - .3 Add thinner to paint manufacturer's recommendations. Do not use kerosene or organic solvents to thin water-based paints.
 - .4 Thin paint for spraying according 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 Departmental Representative.
 - .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.
 - .6 Deep and ultra deep colors; 4 coats may be required.

- 2.5 GLOSS/SHEEN RATINGS
- .1 Paint gloss: defined as sheen rating of applied paint, in accordance with following values:

Gloss Level Category/	Units @ 60 Degrees/	Units @ 85 Degrees/
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

2.5 GLOSS/SHEEN RATINGS
(Cont'd)

- .1 Paint gloss:(Cont'd)
- | Gloss Level Category/ | Units @ 60 Degrees/ | Units @ 85 Degrees/ |
|------------------------|---------------------|---------------------|
| G4 - satin finish | 20 to 35 | min. 35 |
| 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 specified.

2.6 EXTERIOR PAINTING SYSTEMS

- .1 Cementitious Composition Board Surfaces: (vertical surfaces, horizontal soffits)
.1 EXT 3.3J - G3 finish (over W.B. alkali resistant primer).
- .2 Structural Steel and Metal Fabrications:
.1 EXT 5.1H - Polyurethane, Pigmented finish (over epoxy primer and epoxy).
- .3 Galvanized Metal: not chromate passivated
.1 EXT 5.3M - High performance architectural latex, (over W.B. primer). G5 finish.
- .4 Wood Panelling:
.1 EXT - 6.4M - High performance architectural latex, G5 finish (over latex primer).

2.7 INTERIOR PAINTING SYSTEMS

- .1 Concrete vertical surfaces: including horizontal soffits:
.1 INT 3.1M - Institutional low odour/low VOC G3 finish.
- .2 Structural steel and metal fabrications: columns, beams, joists:
.1 INT 5.1S - Institutional low odour/low VOC G3 finish general, and G1 finish for ceiling items.

2.7 INTERIOR
PAINTING SYSTEMS
(Cont'd)

- .3 Galvanized metal: doors, frames, railings, misc. steel, pipes, overhead decking, and ducts:
 - .1 INT 5.3M - High performance architectural latex G4 finish general, G1 finish for overhead decking and ducts, and G5 finish for railings and door frames.
 - .4 Dressed lumber: including doors, door and window frames, casings, mouldings unless noted otherwise:
 - .1 INT 6.3A - High performance architectural latex G4 finish general, and G5 finish for door frames.
 - .5 Wood paneling and casework: partitions, panels, shelving, millwork unless noted otherwise:
 - .1 INT 6.4S - High performance architectural latex G4 finish.
 - .2 INT 6.4P - Pigmented fire retardant G3 coating (ULC rated) for use in communications and electrical backerboards.
 - .6 Plaster and gypsum board: gypsum wallboard, drywall, "sheet rock type material", and textured finishes:
 - .1 INT 9.2B - High performance architectural latex G3 finish walls, and G1 finish for ceilings.
- 2.8 SOURCE QUALITY CONTROL
- .1 Perform following tests on each batch of consolidated post-consumer material before surface coating is reformulated and canned. Testing by laboratory or facility which has been accredited by Standards Council of Canada.
 - .1 Lead, cadmium and chromium are to be determined using ICP-AES (Inductively Coupled Plasma - Atomic Emission Spectroscopy) technique no. 6010 as defined in EPA SW-846.
 - .2 Mercury is to be determined by Cold Vapour Atomic Absorption Spectroscopy using Technique no. 7471 as defined in EPA SW-846.
 - .3 Organochlorines and PCBs are to be determined by Gas Chromatography using Technique no. 8081 as defined in EPA SW-846.

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 datasheets.
- 3.2 GENERAL .1 Perform preparation and operations for 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 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable to be painted in accordance with manufacturer's written instructions:
- .1 Visually inspect substrate in presence of Departmental Representative.
- .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
- .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.
- .2 Surfaces requiring repainting: inspected by both painting contractor and Paint Inspection Agency who will notify Departmental Representative in writing of defects or problems, prior to commencing repainting work, or after surface preparation if unseen substrate damage is discovered.
- .3 Where 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.
- .4 Where "special" repainting or recoating system applications (i.e. elastomeric coatings) or non-MPI
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3.3 EXAMINATION
(Cont'd)

- .4 (Cont'd)
listed products or systems are to be used, paint or coating manufacturer to provide as part of work, certification of surfaces and conditions for specific paint or coating system application as well as on site supervision, inspection and approval of their paint or coating system application as required at no additional cost to Departmental Representative.

3.4 PREPARATION

- .1 Perform preparation and operations for painting in accordance with MPI Maintenance Repainting Manual except where specified otherwise.
- .2 Apply paint materials in accordance with paint manufacturer's written application instructions.
- .3 Clean and prepare surfaces to be painted in accordance with MPI Maintenance Painting Manual requirements. Refer to the MPI Manual in regard to specific requirements and as follows:
.1 Remove dust, dirt, and 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. Allow sufficient drying time and test surfaces using electronic moisture meter before commencing work.
.5 Use water-based cleaners in place of organic solvents where surfaces will be repainted using water based paints.
.6 Many water-based paints cannot be removed with water once dried. Minimize use of kerosene or such organic solvents to clean up water-based paints.
- .4 Clean metal surfaces to be repainted by removing rust, dirt, oil, grease and foreign substances in accordance with MPI requirements. Remove such contaminates 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.

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- 3.4 PREPARATION (Cont'd)
- .5 Prevent contamination of cleaned surfaces by salts, acids, alkalis, other corrosive chemicals, grease, oil and solvents before priming and between applications of remaining coats. Touch-up, spot prime, and apply primer, paint, or pretreatment as soon as possible after cleaning and before deterioration occurs.
 - .6 Do not apply paint until prepared surfaces have been accepted by Departmental Representative.
 - .7 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.
- 3.5 EXISTING CONDITIONS
- .1 Conduct moisture testing of surfaces to be painted using a properly calibrated electronic moisture meter, except test concrete floors for moisture using a simple "cover patch test" and report findings to Departmental Representative. Do not proceed with work until conditions fall within acceptable range as recommended by manufacturer.
 - .2 Maximum moisture content as follows:
 - .1 Concrete: 12%.
 - .2 Hard Wood: 15%.
 - .3 Soft Wood: 17%
- 3.6 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 Departmental Representative.
 - .2 Protect items that are permanently attached such as Fire Labels on doors and frames. Do not remove permanently attached labels.
 - .3 Protect factory finished products and equipment.
 - .4 Protect passing pedestrians, and general public in and about building.
 - .5 Remove light fixtures, surface hardware on doors, and other surface mounted equipment, fittings and fastenings prior to undertaking painting
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- 3.6 PROTECTION .5 (Cont'd)
(Cont'd)
- operations. Store items and re-install after painting is completed.
- .6 Move and cover furniture and portable equipment as necessary to carry out painting operations. Replace as painting operations progress.
- .7 As painting operations progress, place "WET PAINT" signs in pedestrian and vehicle traffic areas to approval of Departmental Representative.
- 3.7 APPLICATION .1 Method of application to be as approved by Departmental Representative. Apply paint by brush, roller or airless sprayer. 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 to be free of roller tracking and heavy stipple unless approved by Departmental Representative
- .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 runs and sags.
- .5 Use brushes to work paint into cracks, crevices and places which are not adequately painted by spray.
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3.7 APPLICATION
(Cont'd)

- .3 Spray Application: (Cont'd)
 - .6 Wood, stucco, concrete, cement masonry units CMU's and brick; if sprayed, must be back rolled.
- .4 Use dipping, sheepskins or daubers when no other method is practical in places of difficult access and when specifically authorized by Departmental Representative.
- .5 Apply coats of paint as 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 projecting ledges.
- .9 Finish top, bottom, edges and cutouts of doors after fitting as specified for door surfaces.

3.8
MECHANICAL/
ELECTRICAL
EQUIPMENT

- .1 Unless otherwise specified, paint finished area exposed conduits, piping, hangers, duct work and other mechanical and electrical equipment with colour and finish to match adjacent surfaces, except as noted otherwise.
- .1 Mechanical and electrical rooms: paint exposed conduits, piping, hangers, ductwork and other mechanical and electrical equipment.
- .2 Other unfinished areas: leave exposed conduits, piping, hangers, ductwork and other mechanical and electrical equipment in original finish and touch up scratches and marks.
- .3 Touch up scratches and marks on factory painted finishes and equipment with paint as supplied by manufacturer of equipment.
- .4 Keep sprinkler heads free of paint.

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- 3.7 APPLICATION
(Cont'd)
- .5 Paint inside of ductwork where visible behind grilles, registers and diffusers with primer and one coat of matt black paint.
 - .6 Paint disconnect switches for fire alarm system and exit light systems in red enamel.
 - .7 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.
 - .8 Do not paint over nameplates.
 - .9 Paint fire protection piping red.
 - .10 Paint natural gas piping yellow.
 - .11 Paint steel electrical light standards. Do not paint outdoor transformers and substation equipment.
- 3.9 FIELD QUALITY
CONTROL
- .1 Painting and decorating work to be inspected by MPI Accredited Paint Inspection Agency (inspector) acceptable to specifying authority and local Painting Contractor's Association. Painting contractor will notify Paint Inspection Agency a minimum of one week prior to commencement of work and provide a copy of project painting specification, plans and elevation drawings (including pertinent details) as well as Finish Schedule.
 - .2 Surfaces requiring painting to be inspected by Paint Inspection Agency who will notify Departmental Representative and General Contractor in writing of defects or problems, prior to commencing painting work, or after prime coat shows defects in substrate.
 - .3 Where "special" painting, coating or decorating system applications (i.e. elastomeric coatings) or non-MPI listed products or systems are to be used, paint or coating manufacturer to provide as part of this work, certification of surfaces and conditions for specific paint or coating system application as well as on site supervision, inspection and approval of their paint or coating system application as required at no additional cost to Departmental Representative.
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- 3.9 FIELD QUALITY CONTROL
(Cont'd)
- .4 Standard of Acceptance:
- .1 Walls: no defects visible from a distance of 1000 mm at 90 degrees to surface.
 - .2 Ceilings: no defects visible from floor at 45 degrees degrees to surface when viewed using final lighting source.
 - .3 Final coat to exhibit uniformity of colour and uniformity of sheen across full surface area.
- .5 Field inspection of painting operations to be carried out by independent inspection firm as designated by Departmental Representative.
- .6 Advise Departmental Representative when surfaces and applied coating is ready for inspection. Do not proceed with subsequent coats until previous coat has been approved.
- .7 Cooperate with inspection firm and provide access to areas of work.
- .8 Retain purchase orders, invoices and other documents to prove conformance with noted MPI requirements when requested by Departmental Representative.
- 3.10 CLEANING
- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning:
- .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
- .3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal and Section 01 35 21 - LEED Requirements.
- .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.
- 3.11 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.
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- 3.11 RESTORATION
(Cont'd)
- .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 Departmental Representative. Avoid scuffing newly applied paint.
 - .5 Restore areas used for storage, cleaning, mixing and handling of paint to clean condition as approved by Departmental Representative.