

PART 1 - GENERAL

1.1 Section
Includes

- .1 Moisture testing of substrates.
- .2 Surface preparation of substrates as required for acceptance of paint, including cleaning, small crack repair, patching, caulking, and making good surfaces and areas to limits defined under MPI Painting Maintenance Manual requirements.
- .3 Specific pre-treatments noted herein or specified in the MPI Painting Maintenance Manual.
- .4 Sealing/touch-up, spot priming, and/or full priming surfaces for repainting in accordance with MPI Painting Maintenance Manual requirements.
- .5 Provision of safe and adequate ventilation as required where toxic and/or volatile/flammable materials are being used over and above temporary ventilation supplied by others.

1.2 Related
Sections

- .1 Section 01 33 00 - SUBMITTAL PROCEDURES.
- .2 Section 01 74 22 - CONSTRUCTION/DEMOLITION WASTE MANAGEMENT And DISPOSAL.
- .3 Section 01 61 00 - COMMON PRODUCT REQUIREMENTS.
- .4 Section 01 78 00 - CLOSEOUT SUBMITTALS.
- .5 Section 08 34 63 - DETENTION SECURITY METAL DOORS

1.3 References

- .1 Maintenance Repainting Manual by the Master Painters Institute (MPI), including Identifiers, Evaluation, Systems, Preparation and Approved Product List.
- .2 Test Method for Measuring Total Volatile Organic Compound Content of Consumer Products, Method 24 (for Surface Coatings) of the Environmental Protection Agency (EPA).

1.3 References (Cont'd)	.3 National Fire Code of Canada.
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| 1.4 Quality Assurance | .1 Conform to latest MPI requirements for interior painting work including cleaning, preparation and priming. |
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| | .2 Materials (primers, paints, coatings, varnishes, stains, lacquers, fillers, thinners, solvents, etc.) shall be in accordance with the latest edition of the MPI Approved Product List and shall be from a single manufacturer for each system used. |
| | .3 Paint materials shall be the highest quality product of an approved manufacturer listed in MPI Maintenance Painting Manual and shall be compatible with other coating materials as required. |
| | .4 Retain purchase orders, invoices and other documents to prove conformance with noted MPI requirements when requested by Departmental representative. |
| | .5 Standard of Acceptance: When viewed using final lighting source surfaces shall indicate the following:
.1 Walls: No defects visible from a distance of 1000 mm at 90° to surface.
.2 Ceilings: No defects visible from floor at 45° to surface.
.3 Metal surfaces: No defects visible from a distance of 1000 mm at 90° to surface.
.4 Final coat to exhibit uniformity of colour and sheen across full surface area. |

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| 1.5 Environmental Performance Requirements | .1 Provide paint products meeting MPI "Environmentally Friendly" E2 (minimum) ratings based on VOC (EPA Method 24) content levels. |
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| 1.6 Inspection Requirements | .1 Interior painting work shall be inspected by the Departmental Representative. Painting contractor shall notify the Departmental Representative a minimum of one week prior to commencement of work and provide a copy of |
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1.6 Inspection
Requirements
(Cont'd)

- .1 (Cont'd)
project repainting specification and Finish
Schedule.
- .2 Interior surfaces requiring painting shall be
inspected by both painting contractor and
Departmental Representative who shall notify
the General Contractor in writing of defects
or problems, prior to commencing painting
work, or after surface preparation if unseen
substrate damage is discovered.
- .3 Where an 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 shall be rectified by others, as
mutually agreed, before repainting is started.
- .4 Where "special" painting or coating system
applications (i.e. elastomeric coatings) or
non-MPI listed products or systems are to be
used, paint or coating manufacturer shall
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 Owner.

1.7 Scheduling of
Work

- .1 Schedule painting of occupied areas and of
large areas for which the type of paint used
will emit strong odours to be carried out
during the Facility's non-operational off-hour
periods and as directed by Departmental
Representative.

1.8 Submittals

- .1 Submit product data and manufacturer's
installation/application instructions for each
paint and coating product to be used in
accordance with the requirements of Section
01 33 00 - Submittal Procedures.
- .2 Submit full range colour sample chips for
review and selection. Indicate where colour
availability is restricted.

1.8 Submittals
(Cont'd)

- .3 Submit WHMIS MSDS - Material Safety Data Sheets for paint and coating materials.
- .4 Upon completion, submit records of products used. List products in relation to finish system and include the following:
 - .1 Product name, type and use (i.e. materials and location).
 - .2 Manufacturer's product number.
 - .3 Colour code numbers.
 - .4 MPI Environmentally Friendly classification system rating.
 - .5 Manufacturer's Material Safety Data Sheets (MSDS).

1.9 Delivery,
Handling and
Storage

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - COMMON PRODUCT REQUIREMENTS.
- .2 Deliver and store materials in original containers, sealed, with labels intact.
- .3 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.
- .4 Observe manufacturer's recommendations for storage and handling.
- .5 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling storage, and disposal of hazardous materials.
- .6 Fire Safety Requirements:
 - .1 Store rags, waste products, empty containers and materials subject to spontaneous combustion in ULC approved, sealed containers and remove from site on a daily basis.
 - .2 Handle, store, use and dispose of flammable and combustible materials in accordance with the National Fire Code of Canada.

1.10 Site
Requirements

- .1 Heating, Ventilation and Lighting:
 - .1 Perform no repainting work unless 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 and until paint has cured sufficiently.
 - .2 Provide continuous ventilation for seven days after completion of application of paint.
 - .3 Coordinate use of existing ventilation system with Departmental Representative and General Contractor and ensure its operation during and after application of paint as required.
 - .4 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. The use of gas-fired appliances is not permitted.

1.11 Waste
Management and
Disposal

- .1 Separate and recycle waste materials in accordance with Section 01 74 22 - CONSTRUCTION/DEMOLITION WASTE MANAGEMENT And DISPOSAL.
- .2 Paint, stain and wood preservative finishes and related materials (thinners, solvents, etc.) are 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.
- .3 Materials that cannot be reused must be treated as hazardous waste and disposed of in an appropriate manner.
- .4 Place materials defined as hazardous or toxic waste, including used sealant and adhesive tubes and containers, in containers or areas designated for hazardous waste.
- .5 To reduce the amount of contaminants entering waterways, sanitary/storm drain systems or into the ground the following procedures shall be strictly adhered to:
 - .1 Retain cleaning water for water-based materials to allow sediments to be filtered

- 1.11 Waste Management and Disposal
(Cont'd)
- .5 (Cont'd)
- .1 (Cont'd)
out. In no case shall equipment be cleaned using free draining water.
- .2 Retain cleaners, thinners, solvents and excess paint and place in designated containers and ensure proper disposal.
- .3 Return solvent and oil soaked rags used during painting operations for contaminant recovery, proper disposal, or appropriate cleaning and laundering.
- .4 Dispose of contaminants in an approved legal manner in accordance with hazardous waste regulations.
- .5 Empty paint cans are to be dry prior to disposal or recycling (where available).
- .6 Close and seal tightly partly used cans of materials including sealant and adhesive containers and store protected in well ventilated fire-safe area at moderate temperature.
- .6 Where paint recycling is available, collect waste materials by type and provide for delivery to recycling or collection facility.
- 1.12 Extra Materials
- .1 Submit maintenance materials in accordance with Section 01 78 00 - Closeout Submittals.
- .2 Submit one one litre can of each type and colour of finish coating. Identify type and colour in relation to established colour schedule and finish system.
- .3 Deliver to Contractor and store where directed.

PART 2 - PRODUCTS

- 2.1 Materials
- .1 Paint materials listed in the latest edition of the MPI Approved Product List (APL) are acceptable for use on this project.
 - .2 Paint materials for paint systems shall be products of a single manufacturer.
 - .3 Provide paint products meeting MPI "Environmentally Friendly" minimum ratings of E2 or higher based on VOC content levels in accordance with EPA Method 24.
 - .4 Where several products meet the environmental rating specified herein, use one which has highest environmental characteristics but that does not compromise quality and performance of coating.
- 2.2 Colours
- .1 Submit full range of sample colour chips for colour selection by Departmental.
 - .2 Departmental Representative will select colours after Contract award.
 - .3 First coat in a two coat (Premium) paint 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. On-site tinting of painting materials will not be allowed.
 - .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 such organic solvents to thin water-based paints.
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2.4 Interior
Painting Systems

- .1 INT 5.3M - Galvanized Metal: (High Contact/High Traffic Areas (Doors, Frames, etc.)).
 - .1 High Performance Architectural Latex G5. (1 coat full prime coat MPI # 134 and 2 coats MPI # 141 - semigloss).
- .2 Painting of existing surfaces: application of spot primer in lieu of full primer coat is acceptable for previously painted surfaces provided that:
 - .1 Existing paint type is same or compatible with new paint;
 - .2 Existing surfaces are adequate to receive finish paint coats without need of a primer as approved by manufacturer;
 - .3 Paint manufacturer's recommendations are followed for surface preparation to achieve adequate bond between existing and new coats;
 - .4 Final paint finish is uniform in colour and appearance and previous paint colour has been fully hidden.
 - .5 See also clause 3.4 below on patching and surface preparation.

PART 3 - EXECUTION

3.1 General

- .1 Perform preparation and operations for interior painting in accordance with MPI Maintenance Repainting Manual requirements except where otherwise specified.
- .2 Apply paint materials in accordance with paint manufacturer's written application instructions.

3.2 Existing
Conditions

- .1 Prior to commencing work, thoroughly examine site conditions and existing interior substrates to be painted. Report in writing to Departmental Representative and General Contractor damages, defects, or unsatisfactory or unfavourable conditions or surfaces that will adversely affect this work.
- .2 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"

3.2 Existing
Conditions
(Cont'd)

- .2 (Cont'd)
and report findings to Departmental
Representative and General Contractor. Maximum
moisture content shall not exceed limits
specified herein.
- .3 No painting work shall commence until such
adverse conditions and defects have been
corrected and surfaces and conditions are
acceptable to the Painting Subcontractor and
Inspection Agency. Commencement of work shall
not be held to imply acceptance of surfaces
except as qualified herein.
- .4 Degree of surface deterioration (DSD) shall
be assessed using MPI Identifiers and
Assessment criteria indicated in the MPI
Painting Manual. MPI DSD ratings and
descriptions are as follows:

Condition Description

DSD-0	Sound Surface (includes visual (aesthetic) defects that do not affect film's protective properties).
DSD-1	Slightly Deteriorated Surface (indicating fading; gloss reduction, slight surface contamination, minor pin holes scratches, etc.).
DSD-2	Moderately Deteriorated Surface (small areas of peeling, flaking, slight cracking, staining, etc.).
DSD-3	Severely Deteriorated Surface (heavy peeling, flaking, cracking, checking, scratches, scuffs, abrasion, small holes and gouges).
DSD-4	Substrate Damage (repair or replacement of surface required by others).

3.3 Protection

- .1 Protect existing surfaces and adjacent
fixtures and furnishings 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.

3.3 Protection
(Cont'd)

- .2 Protect items that are permanently attached such as Fire Labels on doors and frames.
- .3 Protect factory finished products and equipment.
- .4 Protect general public and building occupants in and about the building.
- .5 Removal of electrical cover plates, light fixtures, surface hardware on doors, and surface mounted equipment, fittings and fastenings shall be done prior to undertaking re-painting operations by General Contractor. Items shall be securely stored and re-installed by General Contractor after painting is completed.
- .6 As painting operations progress, place "WET PAINT" signs in occupied areas to approval of. Departmental Representative

3.4 Cleaning and
Preparation

- .1 Clean and prepare interior surfaces to be painted in accordance with MPI Maintenance Painting Manual requirements. Refer to MPI Manual in regard to specific requirements and as follows:
 - .1 Remove dust, dirt, and surface debris by vacuuming, wiping with dry, clean cloths.
 - .2 Wash surfaces with a biodegradable detergent (TSP) and bleach where applicable and clean warm water using a stiff bristle brush to remove dirt, oil and surface contaminants.
 - .3 Rinse scrubbed surfaces with clean water until foreign matter is flushed from surface.
 - .4 Allow surfaces to drain completely and to dry thoroughly. Allow sufficient drying time and test surfaces using an 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 the use of organic solvents to clean up water-based paints.
- .2 Clean metal surfaces to be repainted by removing rust, dirt, oil, grease and foreign substances in accordance with MPI

3.4 Cleaning and
Preparation
(Cont'd)

- .2 (Cont'd)
requirements. Remove such contaminants 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.
- .3 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 pre-treatment as soon as possible
after cleaning and before deterioration
occurs.
- .4 Do not apply paint until prepared surfaces
have been accepted by Departmental
Representative.
- .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
1000 mm.

3.5 Application

- .1 Apply paint by method that is best suited for
substrate being repainted using brush roller.
Conform to manufacturer's application
instructions unless specified otherwise.
Methods of application shall be as
pre-approved by Departmental Representative
before commencing the work.
- .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 Departmental Representative.
 - .5 Remove runs, sags and brush marks from
finished work and repaint.

3.5 Application
(Cont'd)

- .3 Use dipping, sheepskins or daubers when no other method is practical in places of difficult access and when specifically authorized by Departmental Representative.
- .4 Apply paint coats in a continuous manner and allow surfaces to dry and properly cure between coats for minimum time period as recommended by manufacturer. Minimum dry film thickness of coats shall not be less than that recommended by the manufacturer. Repaint thin spots or bare areas before next coat of paint is applied.
- .5 Sand and dust between coats to remove visible defects.
- .6 Repaint 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.
- .7 Paint top, bottom, and vertical edges of doors to be painted or repainted.

3.6 Field Quality
Control

- .1 Advise Departmental Representative when each surface and applied coating is ready for inspection. Do not proceed with subsequent coats until previous coat has been approved.

3.7 Clean-Up

- .1 Remove paint where spilled, splashed, splattered or sprayed as work progresses using means and materials that are not detrimental to affected surfaces.
- .2 Keep work area free from an unnecessary accumulation of tools, equipment, surplus materials and debris.
- .3 Remove combustible rubbish materials and empty paint cans each day and safely dispose of same in accordance with requirements of authorities having jurisdiction.
- .4 Clean equipment and dispose of wash water used for water borne materials, solvents used for oil based materials as well as other cleaning and protective materials (e.g. rags, drop cloths, masking papers, etc.), paints,

3.7 Clean-Up
(Cont'd)

- .4 (Cont'd)
thinners, paint removers/strippers in
accordance with the safety requirements of
authorities having jurisdiction and as noted
herein.
- .5 Painting equipment shall be cleaned in
leak-proof containers that will permit
particulate matter to settle out and be
collected. Sediment remaining from cleaning
operations shall be recycled or disposed of in
a manner acceptable to authorities having
jurisdiction.
- .6 Paint and coatings in excess of repainting
requirements shall be recycled as noted
herein.

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 affected exposed
surfaces. 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.