

## SECTION 099123

**INTERIOR PAINTING**

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

## 1.2 SUMMARY

- A. This Section includes surface preparation and the application of paint systems on the following interior substrates:
  - 1. Concrete masonry units (CMU).
  - 2. Steel.
  - 3. Wood.
  - 4. Gypsum board.
  - 5. Cotton or canvas insulation covering.
- B. This Section includes exposed interior items and surfaces with low VOC coatings complying with ME DEP regulations.
- C. Related Sections include the following:
  - 1. Division 05 Sections for shop priming of metal substrates with primers specified in this Section.
  - 2. Division 08 Sections for factory priming doors with primers specified in this Section.
  - 3. Division 09 Section "Exterior Painting" for surface preparation and the application of paint systems on exterior substrates.

## 1.3 SUBMITTALS

- A. Product List: For each product indicated, include the following:
  - 1. Product data.
  - 2. Manufacturer's Information: Manufacturer's technical information, including label analysis and instructions for handling, storing, and applying each coating material proposed for use.
  - 3. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.
  - 4. Include printed statement of VOC content for each product.
- B. Samples for Initial Selection: For each type of topcoat product indicated.
- C. LEED Submittals:
  - 1. Product Data for Credit MR 2.2: Environmentally Preferable Materials.

- a. Low or No emissions of VOC: Provide materials that comply with VOC limits in reference tables.

#### 1.4 QUALITY ASSURANCE

- A. Applicator Qualifications: Engage an experienced Applicator who has completed painting system applications similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.
- B. Source Limitations: Obtain block fillers, primers and undercoat materials for each coating system from the same manufacturer as the finish coats.
- C. Mockups: Apply benchmark samples of each paint system indicated and each color and finish selected to verify preliminary selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
  1. Architect will select one surface to represent surfaces and conditions for application of each paint system specified in Part 3.
    - a. Wall and Ceiling Surfaces: Provide samples of at least 100 sq. ft..
    - b. Other Items: Architect will designate items or areas required.
  2. Apply benchmark samples after permanent lighting and other environmental services have been activated.
  3. Final approval of color selections will be based on benchmark samples.
    - a. If preliminary color selections are not approved, apply additional benchmark samples of additional colors selected by Architect at no added cost to Owner.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
  1. Maintain containers in clean condition, free of foreign materials and residue.
  2. Remove rags and waste from storage areas daily.

#### 1.6 PROJECT CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.
- B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

#### 1.7 EXTRA MATERIALS

- A. Furnish extra materials described below that are from same production run (batch mix) as materials applied and that are packaged for storage and identified with labels describing contents.

1. Quantity: Furnish an additional 5 percent, but not less than 1 gal. of each material and color applied.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Benjamin Moore & Co.
2. ICI Paints.
3. Sherwin-Williams Company (The).

### 2.2 PAINT, GENERAL

- A. Material Compatibility:

1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

- B. VOC Compliance for Interior Paints and Coatings: Provide the manufacturer's formulation for the products specified below that are VOC compliant with the State of Maine Department of Environmental Protection Regulation, "Chapter 151: Architectural and Industrial Maintenance (AIM) Coatings" and the following chemical restrictions expressed in grams per liter:

1. Flat Paints and Coatings: VOC content of not more than 100 g/L.
2. Non-Flat Paints and Coatings: VOC content of not more than 150 g/L.
3. Non-Flat Paints and Coatings - High Gloss: VOC content of not more than 250 g/L.
4. Anticorrosive (Rust Preventative) Coatings: VOC content of not more than 400 g/L.
5. Fire Resistive Coatings: VOC content of not more than 350 g/L.
6. Industrial Maintenance Coatings (IMC): VOC content of not more than 340 g/L.
7. Primers, Sealers, and Undercoaters: VOC content of not more than 200 g/L.
8. Quick-Dry Enamels: VOC content of not more than 250 g/L.
9. Quick-Dry Primers, Sealers, and Undercoaters: VOC content of not more than 200 g/L.
10. Specialty Primers, Sealers, and Undercoaters: VOC content of not more than 350 g/L.
11. Stains: VOC content of not more than 250 g/L.
12. Wood Preservatives: VOC content of not more than 350 g/L.

- C. VOC Content of Field-Applied Interior Paints and Coatings: Provide products that comply with the following limits for VOC content, exclusive of colorants added to a tint base, when calculated according to 40 CFR 59, Subpart D (EPA Method 24); these requirements do not apply to paints and coatings that are applied in a fabrication or finishing shop:

1. Flat Paints, Coatings, and Primers: VOC content of not more than 50 g/L.
2. Nonflat Paints, Coatings, and Primers: VOC content of not more than 150 g/L.
3. Anti-Corrosive and Anti-Rust Paints Applied to Ferrous Metals: VOC not more than 250 g/L.
4. Floor Coatings: VOC not more than 100 g/L.
5. Shellacs, Clear: VOC not more than 730 g/L.

6. Shellacs, Pigmented: VOC not more than 550 g/L.
7. Flat Topcoat Paints: VOC content of not more than 50 g/L.
8. Nonflat Topcoat Paints: VOC content of not more than 150 g/L.
9. Anti-Corrosive and Anti-Rust Paints Applied to Ferrous Metals: VOC not more than 250 g/L.
10. Floor Coatings: VOC not more than 100 g/L.
11. Shellacs, Clear: VOC not more than 730 g/L.
12. Shellacs, Pigmented: VOC not more than 550 g/L.
13. Primers, Sealers, and Undercoaters: VOC content of not more than 200 g/L.
14. Dry-Fog Coatings: VOC content of not more than 400 g/L.
15. Zinc-Rich Industrial Maintenance Primers: VOC content of not more than 340 g/L.
16. Pre-Treatment Wash Primers: VOC content of not more than 420 g/L.

D. Chemical Components of Field-Applied Interior Paints and Coatings: Provide topcoat paints and anti-corrosive and anti-rust paints applied to ferrous metals that comply with the following chemical restrictions; these requirements do not apply to paints and coatings that are applied in a fabrication or finishing shop:

1. Aromatic Compounds: Paints and coatings shall not contain more than 1.0 percent by weight of total aromatic compounds (hydrocarbon compounds containing one or more benzene rings).
2. Restricted Components: Paints and coatings shall not contain any of the following:
  - a. Acrolein.
  - b. Acrylonitrile.
  - c. Antimony.
  - d. Benzene.
  - e. Butyl benzyl phthalate.
  - f. Cadmium.
  - g. Di (2-ethylhexyl) phthalate.
  - h. Di-n-butyl phthalate.
  - i. Di-n-octyl phthalate.
  - j. 1,2-dichlorobenzene.
  - k. Diethyl phthalate.
  - l. Dimethyl phthalate.
  - m. Ethylbenzene.
  - n. Formaldehyde.
  - o. Hexavalent chromium.
  - p. Isophorone.
  - q. Lead.
  - r. Mercury.
  - s. Methyl ethyl ketone.
  - t. Methyl isobutyl ketone.
  - u. Methylene chloride.
  - v. Naphthalene.
  - w. Toluene (methylbenzene).
  - x. 1,1,1-trichloroethane.
  - y. Vinyl chloride.

E. Colors: Provide color selections made by the Architect. Allow for up to 10 different color selections.

## 2.3 BLOCK FILLERS

A. Latex Block Filler:

1. ICI: Bloxfil 4000-1000 Interior/Exterior Heavy Duty Acrylic Block Filler. (67 g/L)

2. Moore: Latex Block Filler No. M88.
3. S-W: PrepRite Block Filler Interior/Exterior Latex B25W25 Series. (45 g/L)

## 2.4 PRIMERS/SEALERS

### A. Low-VOC Latex Primer/Sealer:

1. Moore: Pristine Eco Spec Interior Latex Primer Sealer, No. 231
2. ICI: Prep & Prime Odorless Primer-Sealer, LM9116. (0 g/L)
3. SW: ProGreen 200 Low VOC Interior Latex Primer B28W600 Series. (43 g/L)

### B. High-Build Primer/Sealer:

1. Moore: Super Spec Satin-Fil 172 (VOC 31g/L)

### C. Wood-Knot Sealer: Sealer recommended in writing by topcoat manufacturer for use in paint systems indicated.

## 2.5 METAL PRIMERS

### A. Rust-Inhibitive Primer (Water Based):

1. ICI: IMC 4020-1000 Devflex 4020PF DTM Primer & Flat Finish. (91 g/L)
2. Moore: IMC Acrylic Metal Primer M04. (51 g/L)
3. S-W: IMC Pro-Cryl Universal Primer, B66-310 Series. (100 g/L)

## 2.6 WOOD PRIMERS

### A. Latex-Based Wood Primer:

1. ICI: 3210-1200 Prep & Prime Gripper Multi-Purpose Interior/Exterior Water-Based Primer Sealer. (99 g/L)
2. Moore: Super Spec Latex Enamel Undercoater & Primer Sealer #253.
3. S-W: PrepRite Classic Latex Primer B28W101 Series.

## 2.7 LATEX PAINTS

### A. Low-VOC Latex (Flat):

1. ICI: Dulux® LifeMaster Flat Interior Latex Enamel 9100-XXX (0 g/L)
2. Moore: Pristine Eco Spec Interior Latex Flat, No. 219.
3. S-W: ProGreen 200 Interior Latex Flat, B30-600. (44 g/L)

### B. Low-VOC Latex (Low Luster):

1. Moore: Pristine Eco Spec Interior Latex Eggshell, No. 223
2. ICI: Dulux® LifeMaster Eggshell Interior Latex Enamel 9300-XXX (0 g/L)
3. SW: ProGreen 200 Interior Latex Eg-Shel, B20-600. (40 g/L)

### C. Low-VOC Latex (Semigloss):

1. Moore: Pristine Acrylic Semi-Gloss, No. 214
2. ICI: Dulux® LifeMaster Semi-Gloss Interior Latex Enamel 9200-XXX (0 g/L)
3. SW: ProGreen 200 Latex Semi-Gloss, B31-600. (46 g/L)

## 2.8 FLOOR COATINGS

### A. Latex Floor and Porch Paint (Low-Luster):

1. Moore Latex Floor & Patio Enamel 122.
2. ICI: 3018-XXXX Groundworks Interior/Exterior Water-Based Porch & Floor Satin Enamel. (43 g/L)
3. S-W: Porch & Floor Enamel, Interior/Exterior A32-100 Series. (45 g/L)

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
  1. Concrete: 12 percent.
  2. Masonry (Clay and CMU): 12 percent.
  3. Wood: 15 percent.
  4. Gypsum Board: 12 percent.
- C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- D. Begin coating application only after unsatisfactory conditions have been corrected and surfaces are dry.
  1. Beginning coating application constitutes Contractor's acceptance of substrates and conditions.

### 3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
- B. Remove plates, machined surfaces, and similar items already in place that are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
  1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
  2. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
- C. Clean substrates of substances that could impair bond of paints, including dirt, oil, grease, and incompatible paints and encapsulants.

1. Remove incompatible primers and reprime substrate with compatible primers as required to produce paint systems indicated.
- D. Concrete Substrates: Remove release agents, curing compounds, efflorescence, and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.
- E. Concrete Masonry Substrates: Remove efflorescence and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.
- F. Steel Substrates: Remove rust and loose mill scale. Clean using methods recommended in writing by paint manufacturer.
- G. Wood Substrates:
1. Scrape and clean knots, and apply coat of knot sealer before applying primer.
  2. Sand surfaces that will be exposed to view, and dust off.
  3. Prime edges, ends, faces, undersides, and backsides of wood.
  4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.
- H. Gypsum Board Substrates: Do not begin paint application until finishing compound is dry and sanded smooth.
- I. Cotton or Canvas Insulation Covering Substrates: Remove dust, dirt, and other foreign material that might impair bond of paints to substrates.

### 3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions.
1. Use applicators and techniques suited for paint and substrate indicated.
  2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
  3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
  4. Apply an additional coat of primer on metal surfaces that have been shop primed.
- B. Tinting: Tint primer of colors such as reds, yellows, and oranges with a gray basecoat system designed to help provide color coverage.
1. Do not tint prime or base coat for multi-colored finishes.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance. Give special attention to ensure edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces. When using colors such as red, yellow or orange, an extra coat of finish may be necessary. Notify Architect when additional coats do not fix the problem.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

- E. Painting Mechanical and Electrical Work: Paint items exposed in equipment rooms and occupied spaces including, but not limited to, the following:
1. Mechanical, Plumbing and Fire Protection Work:
    - a. Uninsulated metal piping.
    - b. Uninsulated plastic piping.
    - c. Pipe hangers and supports.
    - d. Tanks that do not have factory-applied final finishes.
    - e. Visible portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets.
    - f. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
    - g. Mechanical equipment that is indicated to have a factory-primed finish for field painting.
  2. Electrical Work:
    - a. Switchgear.
    - b. Panelboards.
    - c. Electrical equipment that is indicated to have a factory-primed finish for field painting.

### 3.4 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

### 3.5 INTERIOR PAINTING SCHEDULE

- A. VOC Compliance, General: Provide the manufacturers' formulations for the products specified below that comply with the VOC requirements for the State of Maine Department of Environmental Protection in paragraph 2.2 of this Section.
- B. Concrete Substrates, Traffic Surfaces:
  1. Latex Floor Coating System:
    - a. Prime Coat: Latex floor and porch paint (low gloss).
    - b. Intermediate Coat: Latex floor and porch paint (low gloss).
    - c. Topcoat: Latex floor and porch paint (low gloss).
- C. CMU and Concrete Substrates:
  1. Low-VOC Latex System:



- a. Prime Coat: Latex block filler.
  - b. Intermediate Coat: Low-VOC latex paint matching topcoat.
  - c. Topcoat: Low-VOC latex low-luster paint.
- D. Steel Substrates: Including, but not limited to steel doors and frames, steel stairs (including risers and stringers), handrails and guardrails, lintel plates and angles, wood door glass lite kits and astragals, access panels (both sides), metal fabrications; see Division 05 Section "Metal Fabrications", and miscellaneous metal items.
- 1. Low-VOC Latex Over DTM Primer System:
    - a. Prime Coat: DTM anticorrosive metal primer.
    - b. Intermediate Coat: Low-VOC latex paint matching topcoat.
    - c. Topcoat: Low-VOC latex semi-gloss paint.
- E. Dressed Lumber Substrates:
- 1. Low-VOC Latex System:
    - a. Prime Coat: Interior latex-based wood primer.
    - b. Intermediate Coat: Low-VOC latex paint matching topcoat.
    - c. Topcoat: Low-VOC latex (semigloss) paint.
- F. Gypsum Board Substrates:
- 1. Low-VOC Latex System:
    - a. Prime Coat: Low-VOC latex primer/sealer.
    - b. Intermediate Coat: Low-VOC latex paint matching topcoat.
    - c. Topcoat: Low-VOC latex (flat at ceilings), (low sheen at walls) paint.
- G. Cotton or Canvas Insulation-Covering Substrates: Including pipe and duct coverings.
- 1. Latex System:
    - a. Prime Coat: Latex primer/sealer.
    - b. Intermediate Coat: Latex paint matching topcoat.
    - c. Topcoat: Latex flat paint.

END OF SECTION