

## **SECTION 099114 - EXTERIOR PAINTING (MPI STANDARDS)**

First Edition: 12-02-2022

(Consultant shall edit specifications and blue text in header to meet project requirements. This includes but is not limited to updating Equipment and/or Material Model Numbers indicated in the specifications and adding any additional specifications that may be required by the project. Also turn off all "Underlines")

### **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. Section Includes:
  - 1. Surface preparation and application of paint systems on the following exterior substrates:
    - a. Concrete.
    - b. Concrete masonry units (CMUs).
    - c. Steel and iron.
    - d. Galvanized metal.
    - e. Cement board.

#### **1.3 DEFINITIONS**

- A. MPI Gloss Level 1: Not more than five units at 60 degrees and 10 units at 85 degrees, according to ASTM D523.
- B. MPI Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D523.
- C. MPI Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D523.
- D. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D523.
- E. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D523.
- F. MPI Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D523.

#### **1.4 ACTION SUBMITTALS**

- A. Product Data: For each type of product.
  - 1. Include preparation requirements and application instructions.
  - 2. Include printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
  - 3. Indicate VOC content.

- B. Samples for Verification: For each type of paint system and each color and gloss of topcoat.
  - 1. Submit Samples on rigid backing, 8 inches square.
  - 2. Apply coats on Samples in steps to show each coat required for system.
  - 3. Label each coat of each Sample.
  - 4. Label each Sample for location and application area.
  
- C. Product List: Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in the Exterior Painting Schedule to cross-reference paint systems specified in this Section. Include color designations.

#### 1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
  - 1. Paint: 5 percent, but not less than 1 gal. of each material and color applied.

#### 1.6 QUALITY ASSURANCE

- A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.
  - 1. Architect will select one surface to represent surfaces and conditions for application of each paint system.
    - a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft..
    - b. Other Items: Architect will designate items or areas required.
  - 2. Final approval of color selections will be based on mockups.
    - a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.
  - 3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
  - 4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

#### 1.7 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.

#### 1.8 FIELD 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 in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

## **PART 2 - PRODUCTS**

### **2.1 MANUFACTURERS**

- A. Basis of Design Product: Products: Subject to compliance with requirements, provide products by Sherwin-Williams Company, or equivalent products from one of the following:
  - 1. Benjamin Moore & Co.
- B. Source Limitations: Obtain paint from single source from single manufacturer.

### **2.2 PAINT PRODUCTS**

- A. MPI Standards: Provide products complying with MPI standards indicated and listed in its "MPI Approved Products List."
- B. 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 topcoat manufacturers for use in paint system and on substrate indicated.
  - 3. VOC Content: Products shall comply with VOC limits of authorities having jurisdiction.
- C. Colors:

**The colors below are the UMB standards for parking structures, only. Edit as required.**

- 1. Color codes, per level.
  - a. Level 01, SW 6868 Real Red.
  - b. Level 02, SW 6943 Intense Teal.
  - c. Level 03, SW 6906 Citrus.
  - d. Level 04, SW 6924 Direct Green.
  - e. Level 05, SW 6983 Fully Purple.
  - f. Level 06, SW 6884 Obstinate Orange.
  - g. Level 07, SW 6958 Dynamic Blue.
  - h. Level 08, SW 6920 Center Stage.
  - i. Level 09, SW 6979 Verve Violet.
  - j. All Graphic Wall Text, SW 6258 Tricorn Black.
  - k. All Wall Background, SW 6002 Essential Gray
  - l. All Existing Steel beams, match existing.
- 2. Location: As shown or indicated on the drawings.

### **2.3 SOURCE QUALITY CONTROL**

- A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure:
  - 1. Owner will engage the services of a qualified testing agency to sample paint materials. Contractor will be notified in advance and may be present when samples are taken. If paint materials have already been delivered to Project site, samples

may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.

2. Testing agency will perform tests for compliance with product requirements.
3. Owner may direct Contractor to stop applying paints if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

### **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 the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
  1. Concrete: 12 percent.
  2. Fiber-Cement Board: 12 percent.
  3. Masonry (Clay and CMUs): 12 percent.
  4. Portland Cement Plaster: 12 percent.
  5. Gypsum Board: 12 percent.
- C. Portland Cement Plaster Substrates: Verify that plaster is fully cured.
- D. Exterior Gypsum Board Substrates: Verify that finishing compound is sanded smooth.
- E. Verify suitability of substrates, including surface conditions and compatibility, with existing finishes and primers.
- F. Proceed with coating application only after unsatisfactory conditions have been corrected.
  1. Application of coating indicates acceptance of surfaces and conditions.

#### **3.2 PREPARATION**

- A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates and paint systems indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and 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.
- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.

1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat 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. Masonry Substrates: Remove efflorescence and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces or mortar joints exceeds that permitted in manufacturer's written instructions.
- F. Steel Substrates: Remove rust, loose mill scale, and shop primer if any. Clean using methods recommended in writing by paint manufacturer[.] but not less than the following:
  1. SSPC-SP 3, "Power Tool Cleaning."
  2. SSPC-SP 11, "Power Tool Cleaning of Bare Metal."
- G. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and areas where shop paint is abraded. Paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.
- H. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.
- I. Aluminum Substrates: Remove loose surface oxidation.
- J. Plastic Trim Fabrication Substrates: Remove dust, dirt, and other foreign material that might impair bond of paints to substrates.

### 3.3 INSTALLATION

- A. Apply paints in accordance with manufacturer's written instructions and recommendations in "MPI Manual."
  1. Use applicators and techniques suited for paint and substrate indicated.
  2. Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.
  3. Paint both sides and edges of exterior doors and entire exposed surface of exterior door frames.
  4. Paint entire exposed surface of window frames and sashes.
  5. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
  6. Primers specified in the Exterior Painting Schedule may be omitted on items that are factory primed or factory finished if compatible with intermediate and topcoat coatings and acceptable to intermediate and topcoat paint manufacturers.
- B. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.

- C. 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.
- D. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:
  - 1. Paint the following work where exposed to view, and within the limited areas of the painted graphics as depicted on the drawings:
    - a. Equipment, including panelboards.
    - b. Uninsulated metal piping.
    - c. Uninsulated plastic piping.
    - d. Pipe hangers and supports.
    - e. Metal conduit.
    - f. Plastic conduit.
    - g. Metal ductwork and supports.

### 3.4 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.
  - 1. Contractor shall touch up and restore painted surfaces damaged by testing.
  - 2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written instructions, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written instructions.

### 3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
  - 1. Do not clean equipment with free-draining water and prevent solvents, thinners, cleaners, and other contaminants from entering into waterways, sanitary and storm drain systems, and ground.
  - 2. Dispose of contaminants in accordance with requirements of authorities having jurisdiction.
  - 3. Allow empty paint cans to dry before disposal.
  - 4. Collect waste paint by type and deliver to recycling or collection facility.
- 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.

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### 3.6 EXTERIOR PAINTING SCHEDULE

- A. Concrete Substrates, Nontraffic Surfaces:
1. Latex System MPI EXT 3.1A:
    - a. Block filler: Block filler, latex, interior/exterior, MPI #4.
    - b. Prime Coat: Primer, alkali resistant, water based, MPI #3.
      - 1) Sherwin-Williams Loxon Concrete & Masonry Primer.
    - c. Intermediate Coat: Latex, exterior, matching topcoat.
    - d. Low-Sheen Topcoat: Latex, exterior, low sheen (MPI Gloss Level 4), MPI #15.
- B. Cement Board Substrates:
1. Latex System MPI EXT 3.3J:
    - a. Alkali-Resistant Prime Coat: Primer, alkali resistant, water based, MPI #3.
    - b. Intermediate Coat: Latex, exterior, matching topcoat.
    - c. Low-Sheen Topcoat: Latex, exterior, low sheen (MPI Gloss Level 4), MPI #15.
      - 1) Sherwin-Williams A-100 Exterior Latex Satin.
- C. CMU Substrates:
1. Institutional Latex over Alkali-Resistant Primer System MPI EXT 4.2L:
    - a. Block filler: Block filler, latex, interior/exterior, MPI #4.
    - b. Prime Coat: Block filler, latex, interior/exterior, MPI #3.
      - 1) Sherwin-Williams Loxon Concrete & Masonry Primer.
    - c. Intermediate Coat: Latex, exterior, matching topcoat.
    - d. Low-Sheen Topcoat: Latex, exterior, low sheen (MPI Gloss Level 4), MPI #15.
      - 1) Sherwin-Williams A-100 Exterior Latex Satin.
- D. Steel Substrates:
1. Institutional Alkyd System MPI EXT 5.1D:
    - a. Alkyd Prime Coat: Primer, alkyd, anticorrosive, for metal, MPI #79.
      - 1) Sherwin-Williams Kem Kromik Universal Primer.
    - b. Intermediate Coat: Exterior, alkyd enamel, matching topcoat.
    - c. Semigloss Topcoat: Alkyd, exterior, semigloss (MPI Gloss Level 5), MPI #94.
      - 1) Sherwin-Williams DTM Alkyd Semi-Gloss.
- E. Aluminum Substrates:
1. Aluminum Paint System MPI EXT 5.1K:
    - a. Alkyd Prime Coat: Primer, alkyd, anti-corrosive, for metal, MPI #79.
    - b. Intermediate Coat: Aluminum paint, matching topcoat.
    - c. Topcoat: Aluminum paint, MPI #1.
- F. Galvanized-Metal Substrates:
1. Institutional Alkyd System MPI EXT 5.3B:
    - a. Prime Coat: Primer, galvanized, cementitious, MPI #26.
    - b. Intermediate Coat: Exterior, alkyd enamel, matching topcoat.

- c. Topcoat: Alkyd, exterior, semigloss (MPI Gloss Level 5), MPI #94.
  - 1) Sherwin-Williams DTM Alkyd Semi-Gloss.

END OF SECTION 099114