

SECTION 099113 - EXTERIOR 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. Section includes surface preparation and the application of paint systems on exterior substrates, including but not limited to the following.
 - 1. Concrete.
 - 2. Portland Cement Plaster (Stucco).
 - 3. Clay Masonry
 - 4. Concrete Masonry.
 - 5. Steel.
 - 6. Galvanized metal.
 - 7. Aluminum (not anodized or otherwise coated).
 - 8. Wood.
- B. All primed surfaces shall be painted. General Contractor shall be responsible for finish painting of all items, exposed to view, that are specified as being PRIMED (field, factory or shop primed) in other specification sections, whether specifically listed in this section or not.
- C. Related Requirements:
 - 1. Section 099123 "Interior Painting" for surface preparation and the application of paint systems on interior substrates.

1.3 DEFINITIONS

- A. Gloss Level 1: Not more than 5 units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.
- B. Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- C. Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
- B. Samples for Initial Selection: For each type of topcoat product.
- C. 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. Step coats on Samples to show each coat required for system.
 - 3. Label each coat of each Sample.
 - 4. Label each Sample for location and application area.
- D. Product List: For each product indicated, include the following:
 - 1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.
 - 2. Printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
 - 3. VOC content.

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: 1 gal. of each material and color applied.

1.6 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.

1.7 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. Provide all paint and coating products used in any individual system from the same manufacturer; no exceptions.
- B. Paints:
 - 1. Basis of design: PPG Paints : www.ppgpaints.com. (PPG)
 - 2. Sherwin-Williams Company: www.sherwin-williams.com. (SW)
 - 3. Benjamin Moore: www.benjaminmoore.com (BM)

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 Content: Provide materials that comply with VOC limits of authorities having jurisdiction.
- C. Colors: As selected by Architect from manufacturer's full range.

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. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers. Where acceptability of substrate conditions is in question, apply samples and perform in-situ testing to verify compatibility, adhesion, and film integrity of new paint application.
 - 1. Report, in writing, conditions that may affect application, appearance, or performance of paint.

B. Substrate Conditions:

1. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - a. Concrete: 12 percent.
 - b. Masonry (Clay and Concrete Masonry Units): 12 percent.
 - c. Portland Cement Plaster: 12 percent.
 - d. Wood: 15 percent.
 - e. Gypsum Board: 12 percent.
- C. Exterior Gypsum Board Substrates: Verify that finishing compound is sanded smooth.
- D. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- E. 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."
- G. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and abraded areas of shop paint, and 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. Wood Substrates:
 1. Scrape and clean knots. Before applying primer, apply coat of knot sealer recommended in writing by topcoat manufacturer for exterior use in paint system indicated.
 2. Sand surfaces that will be exposed to view, and remove sanding dust.
 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.

- J. Plastic Trim Fabrication 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 and recommendations.

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. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.

- B. Tint undercoats same color as topcoat, but tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Provide sufficient difference in shade of undercoats to distinguish each separate coat.

- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.

- 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 Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:

1. Paint the following work where exposed to view:
 - a. Equipment, including panelboards and switch gear.
 - b. Uninsulated metal piping.
 - c. Uninsulated plastic piping.
 - d. Pipe hangers and supports.
 - e. Metal conduit.
 - f. Plastic conduit.
 - g. Tanks that do not have factory-applied final finishes.

- F. At roof, paint all exposed metal surfaces except prefinished, mill finished aluminum and stainless steel surfaces including exposed surfaces of flashing (unless noted otherwise). Painting includes but is not limited to roof stairs, ladders, railing, roof hatches, automatic heat and smoke vents, plumbing vent stacks through the roof, exposed ductwork on the roof, electrical disconnects and service outlets. Roof mounted mechanical equipment are typically factory finished and will not require field painting unless specifically noted on the drawings to be painted.

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 recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 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.

3.6 EXTERIOR PAINTING SCHEDULE

- A. Stucco, Exposed Concrete, and Masonry other than CMU (Elastomeric OR Flat Acrylic Finish):
 - 1. Primer (New) - 1 coat applied at DFT of no less than 1.5 mils or as recommended by manufacturer:
 - a. PPG: 4-603 Perma Crete Int/Ext Alkaline Resistant Primer.
 - b. SW: Loxon Masonry Primer A24W300.
 - c. BM: Moore's High Build Acrylic Masonry Primer 068.
 - 2. Finish – Elastomeric: 2 coats applied at total DFT of no less than 12.0 mils or as recommended by manufacturer:
 - a. PPG: 4-110 Perma-Crete Pitt-Flex Smooth Elastomeric Coating.
 - b. SW: ConFlex XL Smooth Elastomeric High Build Coating A5-400 Series.
 - c. Benjamin Moore - Super Spec 100% Acrylic Elastomeric Flat 056.
 - 3. Finish – Flat Acrylic: 2 coats applied at total DFT of no less than 6.4 mils or as recommended by manufacturer:
 - a. PPG: 4-22 Perma-Crete High Build 100% Acrylic Topcoat
 - b. SW: Loxon Masonry Coating A24W300 series.
 - c. BM: Moore's High-Build Masonry Primer 068.
- B. Concrete Masonry Units (Elastomeric Finish):
 - 1. Block Filler (New) - 1 coat applied at DFT of no less than 9.3 mils or as recommended by manufacturer:
 - a. PPG: 4-100 Perma Crete LTC Concrete Block & Masonry Surfacer / Filler.
 - b. SW: Loxon Block Surfacer, A24W00200 Series.
 - c. BM: Moore's High-build Masonry Primer 068
 - 2. Finish - 2 coats applied at total DFT of no less than 12.0 mils or as recommended by manufacturer:
 - a. PPG: 4-110 Perma-Crete Pitt-Flex Smooth Elastomeric Coating.
 - b. SW: ConFlex XL Smooth Elastomeric High Build Coating A5-400 Series
 - c. BM: Super Spec 100% Acrylic Elastomeric Flat 056.
- C. Wood (Semi-gloss):
 - 1. Primer - 1 coat applied at DFT of no less than 1.6 mils or as recommended by manufacturer:
 - a. PPG: 17-921 Seal Grip Interior Exterior Universal Acrylic Primer.
 - b. SW: PrepRite ProBlock Interior/Exterior Latex Primer/Sealer B51W20 Series.
 - c. BM: Moore's Fresh Start Interior Exterior Acrylic Primer 023.
 - 2. Finish - 2 coats applied at total DFT of no less than 2.0 mils or as recommended by manufacturer:
 - a. PPG: 90-1210 Pitt Tech Plus DTM Acrylic Semi Gloss Industrial Enamel.
 - b. SW: Sher-Cryl HPA High Performance Acrylic Semi Gloss, B66-350 Series.
 - c. BM: Super Spec HP DTM Acrylic Semi Gloss P29.
- D. Ferrous Metal and Aluminum (Semi-gloss):
 - 1. Primer (New Painted Metal Doors & Frames and Misc. Metal) - 1 coat applied at DFT of no less than 2.3 mils or as recommended by manufacturer:

- a. PPG: 6-208 Speedhide Int/Ext Rust Inhibitive Steel Primer.
 - b. SW: Kromik Alkyd Metal Primer E41 Series.
 - c. BM: Super Spec HP Alkyd Metal Primer P06 Series.
 - 2. Finish (New Painted Metal Doors & Frames and Misc. Metal) - 2 coats applied at total DFT of no less than 4.0 mils or as recommended by manufacturer:
 - a. PPG: 90-1210 Pitt Tech Plus DTM Acrylic Semi Gloss Industrial Enamel.
 - b. SW: Sher-Cryl HPA High Performance Acrylic Semi Gloss, B66-350 Series.
 - c. BM: Super Spec HP DTM Acrylic Semi Gloss P29.
- E. Galvanized Metal (Semi-gloss):
- 1. Primer (New Painted Doors & Frames and Misc. Metal) - 1 coat applied at DFT of no less than 2.0 mils or as recommended by manufacturer:
 - a. PPG: 90-712 Pitt-Tech DTM Acrylic Metal Primer Finish.
 - b. SW: DTM Acrylic Primer Finish B66W1 Series.
 - c. BM: Super Spec HP Acrylic Metal Primer P04.
 - 2. Finish (New Painted Metal Doors & Frames and Misc. Metal) - 2 coats applied at total DFT of no less than 4.0 mils or as recommended by manufacturer:
 - a. PPG: 90-1210 Pitt Tech Plus DTM Acrylic Semi Gloss Industrial Enamel.
 - b. SW: Sher-Cryl HPA High Performance Acrylic Semi Gloss, B66-350 Series.
 - c. BM: Super Spec HP DTM Acrylic Semi Gloss P29.

END OF SECTION 099113