SECTION 09 91 00 PAINTING

PART 1 - General

1.1 Related Documents

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

1.2 SUMMARY

A. Section includes surface preparation and application of paint systems, for the following:

1. Exterior and Interior applications.
2. Interior applications.
3. Painting systems indicated on Drawings and in Schedules applied to exterior and interior surfaces and related components including but not limited to items such as hollow metal doors frames, doors, access doors, trim pieces, window sash and trim etc., unless otherwise indicated, including appropriate surface preparation for all new or existing surfaces to be painted including previously painted surfaces and surfaces with existing wall coverings

1.3 SUBMITTALS, GENERAL

A. General: Submit all action submittals (except Samples for Verification) and informational submittals required by this Section concurrently. Refer to Section 01 33 00 for submittal requirements.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product for substrates indicated. Include preparation requirements and application instructions. Include all paint products under one cover sheet.

1. Exterior steel.
2. Interior concrete, vertical surfaces.
3. Interior CMU.
4. Interior steel.
5. Interior steel piping, piping supports and hangers.
6. Interior galvanized-metal.
7. Interior galvanized-metal (metal deck).

B. Samples for Initial Selection: For each type of product indicated.

C. Samples for Verification: For each type of finish system and in each color and gloss of finish indicated.

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 finish system and locations of application areas. Use same designations indicated on Drawings and in schedules.
2. VOC content.

E. Coatings Maintenance Manual:

Upon conclusion of the project, the contractor or paint manufacture/supplier shall furnish a coatings maintenance manual such as Sherwin Williams "Custodian Project Color and Product Information" report. Manual shall include an Area Summary with finish schedule, Area Detail designating where each product/color/finish was used, product data pages, Material Safety Data Sheets, care and cleaning instructions. Touch up procedures and color samples of each color and finish used. All information contained in a self-bound 3 ring hole punched catalog.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For applicator.

1.5. MAINTENANCE MATERIAL SUBMITTALS

B. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Paint: 10 percent, but not less than 1 gallon. of each material and color applied.

1.6 QUALITY ASSURANCE

A. Applicator Qualifications: A firm or individual, experienced in applying finishes specified in this Section, who has successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; familiar with special requirements indicated; and with sufficient trained staff to apply manufacturer's products according to specified requirements.

B. Mockups: Apply mockups of each finish system indicated to verify preliminary selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Owner's Representative will select one surface to represent surfaces and conditions for application of each finish system specified in Part 3.

   a. Wall and Ceiling Surfaces: Provide samples of at least 100 sq. ft.
   b. Other Items: Owner's Representative will designate items or areas required.

2. Final approval of color selections will be based on mockups.

   If preliminary color selections are not approved, apply additional mockups of additional colors selected by Owner's Representative at no added cost to Owner.

3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Owner's Representative 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 in tightly covered containers when not in use. Store containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 degrees F (7 degrees C).

B. Maintain containers in clean condition, free of foreign materials and residue.

C. Remove rags and waste from storage areas daily.

1.8 FIELD CONDITIONS

A. Apply finishes only when temperature of surfaces to be coated and surrounding air temperatures are between 50 and 95 degrees F (10 and 35 degrees C).

B. Do not apply finishes when relative humidity exceeds 85 percent; at temperatures less than 5 degrees F (3 degrees C) above the dew point; or to damp or wet surfaces.

C. Do not apply exterior finishes in snow, rain, fog, or mist.

D. Lighting: Do not install finishes until a lighting level of not less than 80 fc is provided on the surfaces to receive finishing.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, by a single source manufacture, but are not limited to, the following:

1. Benjamin Moore & Co.
2. PPG Architectural Finishes, Inc.
3. Sherwin-Williams Company (The).

B. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to products listed in Part 3 articles for the application indicated.

2.2 MATERIALS, GENERAL

A. Material Compatibility:

1. Provide materials for use within each finish 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 finish system, provide products recommended in writing by manufacturers of topcoat for use in finish system and on substrate indicated.
3. Provide products of same manufacturer for each coat in a finish system.

B. VOC Compliance: All paint products shall meet requirements for Volatile Organic Compound (VOC) and Ozone Transport Commission (OTC) regulations, January 2005.

C. Colors: As selected by Owner's Representative from manufacturer's full range.

25 percent of surface area will be painted with accent tones.

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.

1. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:

a. Concrete: 12 percent.
b. Masonry (Clay and CMU): 12 percent.
c. Wood: 15 percent.
d. Gypsum Board: 12 percent.

B. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.

C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

D. Proceed with coating application only after unsatisfactory conditions have been corrected.

Beginning coating application constitutes Contractor's acceptance of substrates and conditions.

3.2 PREPARATION

A. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be finished. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and finishing.

After completing finishing operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.

B. Clean substrates of substances that could impair bond of finishes, including dust, dirt, oil, grease, and incompatible paints and encapsulants.

Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce finish systems indicated.

C. Concrete Substrates: Remove release agents, curing compounds, efflorescence, and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be coated exceeds that permitted in manufacturer's written instructions.

D. Masonry Substrates: Remove efflorescence and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces or if alkalinity of mortar joints exceed that permitted in manufacturer's written instructions.

E. 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 to Bare Metal."

F. 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.

G. 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.

H. Galvanized Metal/Galvanized Deck, Factory Primed Surface-Coordinate with approved paint manufacture on compatibility of paint finish coats to factory prime surface.

I. Aluminum Substrates: Remove loose surface oxidation.

3.3 APPLICATION

A. Apply finishes according to manufacturer's written instructions.

1. Use applicators and techniques suited for finish 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 back sides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
4. Do not apply paints over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.

B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of the same material are to be applied. Tint undercoats to match color of finish coat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.

C. If undercoats or other conditions show through final coat, apply additional coats until cured film has a uniform coating finish, color, and appearance.

D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections. Produce sharp glass 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 in equipment rooms:

   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.
   h. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.

2. Paint the following work where exposed in occupied spaces:

   a. Equipment, including panelboards.
   b. Uninsulated metal piping.
   c. Uninsulated plastic piping.
   d. Pipe hangers and supports.
   e. Metal conduit.
   f. Plastic conduit.
   g. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
   h. Other items as directed by Owner's Representative.

3. Paint portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets that are visible from occupied spaces.

3.4 FIELD QUALITY CONTROL

A. Dry Film Thickness Testing: Owner will engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.

B. Contractor shall touch up and restore painted surfaces damaged by testing.

C. 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 coating application, clean spattered surfaces. Remove spattered coatings by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

C. Protect work of other trades against damage from finish operation. Correct damage by cleaning, repairing, replacing, and recoating, as approved by Owner's Representative, and leave in an undamaged condition.

D. At completion of construction activities of other trades, touch up and restore damaged or defaced finished surfaces.

3.6 EXTERIOR PAINTING SCHEDULE

A. CMU Substrates (painted):

1. First Coat:

a. Benjamin Moore & Co.; Super Spec Masonry Int-Ext Hi-Build Block Filler 206-01.
b. PPG Architectural Finishes; Inc.; Speedhide Interior/Exterior Latex Block Filler 6-7.
c. Sherwin-Williams Company (The); Prep Rite Latex Block Filler B25W25.

2. Second and Third Coats:

a. Benjamin Moore & Co.; N447 Ultra Spec Exterior Flat Acrylic.
b. PPG Architectural Finishes; Inc.; Speedhide Interior/Exterior Flat Acrylic Latex 6-610.
c. Sherwin-Williams Company (The); A100 Latex Flat House Paint A6.

B. Steel Substrates:

1. First Coat:

a. Benjamin Moore & Co.; Acrylic Metal Primer P04.
b. PPG Architectural Finishes; Inc.; Pitt-Tech Interior/Exterior Industrial DTM Primer/Finish Enamel 90-712.
c. Sherwin-Williams Company (The); DTM Acrylic Primer Finish B66W1.

2. Second and Third Coats:

a. Benjamin Moore & Co.; DTM Acrylic Gloss or S/G Enamel P28 or P29.
b. PPG Architectural Finishes; Inc.; Pitt-Tech Industrial DTM Acrylic Gloss 90-374.
c. Sherwin-Williams Company (The); DTM Acrylic Coating S/G (B66-200 Series) or Gloss (B66-100 Series).

C. Galvanized-Metal Substrates:

1. First Coat:

a. Benjamin Moore & Co.; Acrylic Metal Primer P04.
b. PPG Architectural Finishes; Inc.; Pitt-Tech Interior/Exterior Industrial DTM Primer/Finish Enamel 90-712.
c. Sherwin-Williams Company (The); DTM Acrylic Primer Finish B66W1.

2. Second and Third Coats:

    a. Benjamin Moore & Co.; DTM Acrylic Semi-Gloss P29.
    b. PPG Architectural Finishes; Inc.; Speedhide Exterior Acrylic Latex Satin 6-2045XI or Semi Gloss 6-900XI.
    c. Sherwin-Williams Company (The); A100 Exterior Latex Satin (A82) or Gloss (A8).

D. Aluminum Substrates (where indicated):

1. First Coat:

    a. Benjamin Moore & Co.; Super Spec HP Acrylic Metal Primer P04.
    b. PPG Architectural Finishes; Inc.; Pitt-Tech Interior/Exterior Industrial DTM Primer/Finish Enamel 90-712.
    c. Sherwin-Williams Company (The); DTM Acrylic Primer Finish B66W1.

2. Second and Third Coats:

    a. Benjamin Moore & Co.; DTM Acrylic Gloss Enamel P28.
    b. PPG Architectural Finishes; Inc.; Pitt-Tech Industrial DTM Acrylic Gloss 90-374.
    c. Sherwin-Williams Company (The); DTM Acrylic Coating S/G (B66-200 Series) or Gloss (B66-100 Series).

3.7 INTERIOR PAINTING SCHEDULE

A. Concrete Substrates, Vertical Surfaces:

1. First Coat:

    a. Benjamin Moore & Co.; Moore's Acrylic Masonry Primer 066.
    b. PPG Architectural Finishes; Inc.; Perma-Crete Alkali-Resistant Primer 4-603.
    c. Sherwin-Williams Company (The); Loxon Concrete & Masonry Primer (A24W8300.)

2. Second and Third Coats (Semi-Gloss):

    a. Benjamin Moore & Co.; N539 Ultra Spec 500 Interior Semi-Gloss.
    b. PPG Architectural Finishes; Inc.; Speedhide Interior Semi-Gloss Latex 6-500.
    c. Sherwin-Williams Company (The); Pro Mar 200 Interior Latex S/G B31 Series.

B. CMU Substrates:

1. First Coat:

    a. Benjamin Moore & Co.; Super Spec Masonry Int-Ext Hi-Build Block Filler 206-01.
    b. PPG Architectural Finishes; Inc.; Speedhide Interior/Exterior Latex Block Filler 6-7.
    c. Sherwin-Williams Company (The); PrepRite Block Filler B25W25

2. Second and Third Coats (Semi-Gloss):

a. Benjamin Moore & Co.; N539 Ultra Spec 500 Interior Semi-Gloss.
b. PPG Architectural Finishes; Inc.; Speedhide Interior Semi-Gloss Latex 6-500.
c. Sherwin-Williams Company (The); Pro Mar 200 Interior Latex S/G B31 Series.

C. Steel Substrates:

1. First Coat:

a. Benjamin Moore & Co.; Acrylic Metal Primer P04.
b. PPG Architectural Finishes; Inc.; Pitt-Tech Interior/Exterior Industrial DTM Primer/Finish Enamel 90-712.
c. Sherwin-Williams Company (The); DTM Acrylic Primer Finish B66W1.

2. Second and Third Coats (Semi-Gloss):

a. Benjamin Moore & Co.; DTM Acrylic Semi-Gloss P29.
b. PPG Architectural Finishes; Inc.; Pitt-Tech Industrial DTM Acrylic Satin 90-474.
c. Sherwin-Williams Company (The); DTM Acrylic Coating S/G (B66-200 Series) or Gloss (B66-100 Series.)

D. Steel Piping, Piping Supports and Hangers:

1. First Coat:

a. Benjamin Moore & Co.; Acrylic Metal Primer P04.
b. PPG Architectural Finishes; Inc.; Pitt-Tech Interior/Exterior Industrial DTM Primer/Finish Enamel 90-712.
c. Sherwin-Williams Company (The); DTM Acrylic Primer Finish B66W1.

2. Second and Third Coats (Semi-Gloss):

a. Benjamin Moore & Co.; N539 Ultra Spec Interior Semi-Gloss.
b. PPG Architectural Finishes; Inc.; Speedhide Interior Latex Semi-Gloss 6-500.
c. Sherwin-Williams Company (The); Pro Mar 200 Interior Latex Semi-Gloss B20 Series.

E. Galvanized-Metal Substrates:

1. First Coat:

a. Benjamin Moore & Co.; Acrylic Metal Primer P04.
b. PPG Architectural Finishes; Inc.; Pitt-Tech Interior/Exterior Industrial DTM Primer/Finish Enamel 90-712.
c. Sherwin-Williams Company (The); DTM Acrylic Primer Finish B66W1.

2. Second and Third Coats:

a. Benjamin Moore & Co.; DTM Acrylic Semi-Gloss P29.
b. PPG Architectural Finishes; Inc.; Pitt-Tech Industrial DTM Acrylic Satin 90-474.
c. Sherwin-Williams Company (The); A100 Exterior Latex Satin (A82) or Gloss (A8).

F. Galvanized-Metal Substrates (Metal Deck):

1. First Coat:

   a. Benjamin Moore & Co.; Acrylic Metal Primer P04.
   b. PPG Architectural Finishes; Inc.; Speed Super Tech Latex Dry Fog Spray Paint 6-724XI.
   c. Sherwin-Williams Company (The); Waterborne Acrylic Dry Fall Eggshell B42W2.

2. Second and Third Coats:

   a. Benjamin Moore & Co.; DTM Acrylic Semi-Gloss P29.
   b. PPG Architectural Finishes; Inc.; Speed Super Tech Latex Dry Fog Spray Paint 6-724XI.
   c. Sherwin-Williams Company (The); Waterborne Acrylic Dry Fall Eg-Shell B42W2.

G. Aluminum Substrates (where indicated):

1. First Coat:

   a. Benjamin Moore & Co.; Acrylic Metal Primer P04.
   b. PPG Architectural Finishes; Inc.; Pitt-Tech Interior/Exterior Industrial DTM Primer/Finish Enamel 90-712.
   c. Sherwin-Williams Company (The); DTM Acrylic Primer Finish B66W1.

2. Second and Third Coats (Eggshell):

   a. Benjamin Moore & Co.; Moorcraft Super Spec Latex Eggshell C274.
   b. PPG Architectural Finishes; Inc.; Speedhide Interior Latex Eggshell 6-411.
   c. Sherwin-Williams Company (The); Pro Mar 200 Interior Latex Eg-Shell B20 Series.

H. Gypsum Board Substrates:

1. First Coat:

   a. Benjamin Moore & Co.; Moorcraft Super Spec Latex Enamel Underbody 253.
   b. PPG Architectural Finishes; Inc.; Speedhide Interior Latex Primer/Sealer 6-2
   c. Sherwin-Williams Company (The); Prep Rite 200 Interior Latex Primer B28W200.

2. Second and Third Coats (Semi-Gloss):

   a. Benjamin Moore & Co.; N539 Ultra Spec 500 Interior Semi-Gloss.
   b. PPG Architectural Finishes; Inc.; Speedhide Interior Semi-Gloss Latex 6-500.
   c. Sherwin-Williams Company (The); Pro Mar 200 Interior Latex S/G B31 Series.

END OF SECTION