SECTION 09912 - PAINTING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes surface preparation and field painting of exposed exterior and interior items and surfaces.

1. Surface preparation, priming, and finish coats specified in this Section are in addition to shop priming and surface treatment specified in other Sections.

B. Paint exposed surfaces, except where these Specifications indicate that the surface or material is not to be painted or is to remain natural. If an item or a surface is not specifically mentioned, paint the item or surface the same as similar adjacent materials or surfaces. If a color of finish is not indicated, COR will select from standard colors and finishes available.

C. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels.

1. Prefinished items include the following factory-finished components:

a. Architectural woodwork.
b. Acoustical wall panels.
c. Light fixtures.

2. Finished metal surfaces include the following:

a. Anodized aluminum.
b. Stainless steel.
c. Chromium plate.
d. Copper and copper alloys.
e. Bronze and brass.

3. Operating parts include moving parts of operating equipment and the following:

a. Valve and damper operators.
b. Linkages.
c. Sensing devices.
d. Motor and fan shafts.

4. Labels: Do not paint over UL, FMG, or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.

1.2 DEFINITIONS

A. General: Standard coating terms defined in ASTM D 16 apply to this Section.

1. Flat refers to a lusterless or matte finish with a gloss range below 15 when measured at an 85-degree meter.
2. Eggshell refers to low-sheen finish with a gloss range between 20 and 35 when measured at a 60-degree meter.
3. Semi-gloss refers to medium-sheen finish with a gloss range between 35 and 70 when measured at a 60-degree meter.
4. Full gloss refers to high-sheen finish with a gloss range more than 70 when measured at a 60-degree meter.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated.

1. Include manufacturers' product data for paints, including printed statement of VOC content and chemical components.
2. Include manufacturers' MSDS information for each product.
3. Material List: An inclusive list of required coating materials. Indicate each material and cross-reference specific coating, finish system, and application. Identify each material by manufacturer's catalog number and general classification.
4. Manufacturer's Information: Manufacturer's technical information, including label analysis and instructions for handling, storing, and applying each coating material.

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

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

1. Submit Samples on rigid backing, 200 mm 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 in Part 2, with the proposed product highlighted.

1.4 QUALITY ASSURANCE

A. Applicator Qualifications: A firm or individual experienced in applying paints and coatings 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 for each coating system from the same manufacturer as the finish coats.

C. Environmental Regulations: Comply with Government, regulations limiting volatile organic compound (VOC) content in coating materials, related to coating materials and application methods, as current at time of performance of the work.

1. Paints and coatings listed in Schedules do not necessarily comply with environmental regulations in force at the project site. In such cases, subject to acceptance by Government, provide manufacturer's equivalent or replacement product, as verified by compliance with submittal requirements specified above.

D. Pre-installation Conference: Before beginning preparation of samples, meet with Government and appropriate consultants, and other concerned entities.

1. Review requirements for shop-priming, compatibility of each coating material with substrates and other coatings, and the suitability of each specified paint system for the substrates and other field conditions indicated.
2. Record discussions of conference, including decisions and agreements or disagreements reached, and furnish a copy for each attendee. If substantial disagreements exist at the conclusion of the conference, determine how disagreements will be resolved and set a date for reconvening the conference.

1.5 PROJECT CONDITIONS

A. Deliver materials to Project site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label and the following information:

1. Product name or title of material.
2. Product description (generic classification or binder type).
3. Manufacturer's stock number and date of manufacture.
4. Contents by volume, for pigment and vehicle constituents.
5. Thinning instructions.
6. Application instructions.
7. Color name and number.
8. VOC content.

1.6 Keep storage area neat and orderly. Remove oily rags and waste daily.

A. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 7 deg C. Maintain storage containers in a clean condition, free of foreign materials and residue.

B. Apply waterborne paints only when temperatures of surfaces to be painted and surrounding air are between 10 and 32 deg C.

C. Apply solvent-thinned paints only when temperatures of surfaces to be painted and surrounding air are between 7 and 35 deg C.

D. Do not apply paint in rain, fog, or mist; or when relative humidity exceeds 85 percent; or at temperatures less than 3 deg C above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Provide paint products by one of the following manufacturers:

1. Benjamin Moore
2. PPG Industries
3. Sherwin-Williams

2.2 PAINT MATERIALS, GENERAL

A. Material Compatibility: Provide block fillers, primers, and finish-coat materials that are compatible with one another and with the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

B. Material Quality: Provide manufacturer's best-quality paint material of the various coating types specified that are factory formulated and recommended by manufacturer for application indicated. Paint-material containers not displaying manufacturer's product identification will not be acceptable.

2.3 PREPARATORY COATS

A. Interior Primer: Interior latex-based or alkyd primer of finish coat manufacturer and recommended in writing by manufacturer for use with finish coat and on substrate indicated.

1. Ferrous-Metal Substrates: Quick drying, rust-inhibitive metal primer.

2. Zinc-Coated Metal Substrates: Galvanized metal primer.
3. Where manufacturer does not recommend a separate primer formulation on substrate indicated, use paint specified for finish coat.

2.4 INTERIOR FINISH COATS

A. Interior Flat Acrylic Paint.

B. Interior Flat Latex-Emulsion Size.

C. Interior Semigloss Acrylic Enamel.

D. Interior Full-Gloss Acrylic Enamel.

E. Interior Full-Gloss Alkyd Enamel for Gypsum Board.

F. Interior Full-Gloss Alkyd Enamel for Wood and Metal Surfaces.

2.5 INTERIOR WOOD STAINS AND VARNISHES

A. Open-Grain Wood Filler.

B. Interior Wood Stain: Alkyd based.

C. Interior Alkyd- or Polyurethane-Based Clear Satin Varnish.

PART 3 - EXECUTION

3.1 APPLICATION

A. Comply with procedures specified in PDCA P4 for inspection and acceptance of surfaces to be painted.

B. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.

C. Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of size or weight of the item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.

D. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.

1. Provide barrier coats over incompatible primers or remove and reprime.
2. Cementitious Materials: Remove efflorescence, chalk, dust, dirt, grease, oils, and release agents. Roughen as required to remove glaze. If hardeners or sealers have been used to improve curing, use mechanical methods of surface preparation.
3. Wood: Clean surfaces of dirt, oil, and other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sand surfaces exposed to view smooth and dust off.

    a. Scrape and clean small, dry, seasoned knots, and apply a thin coat of white shellac or other recommended knot sealer before applying primer. After priming, fill holes and imperfections in finish surfaces with putty or plastic wood filler. Sand smooth when dried.
    b. Prime, stain, or seal wood to be painted immediately on delivery. Prime edges, ends, faces, undersides, and back sides of wood, including cabinets, counters, cases, and paneling.
    c. If transparent finish is required, backprime with spar varnish.
    d. Backprime paneling on interior partitions where masonry, plaster, or other wet wall construction occurs on back side.
    e. Seal tops, bottoms, and cutouts of unprimed wood doors with a heavy coat of varnish or sealer immediately on delivery.

4. Ferrous Metals: Clean ungalvanized ferrous-metal surfaces that have not been shop coated; remove oil, grease, dirt, loose mill scale, and other foreign substances. Use solvent or mechanical cleaning methods that comply with SSPC's recommendations.

    a. Blast steel surfaces clean as recommended by paint system manufacturer and according to SSPC-SP 6/NACE No. 3, SSPC-SP 10/NACE No. 2.
    b. Treat bare and sandblasted or pickled clean metal with a metal treatment wash coat before priming.
    c. Touch up bare areas and shop-applied prime coats that have been damaged. Wire-brush, clean with solvents recommended by paint manufacturer, and touch up with same primer as the shop coat.

5. Galvanized Surfaces: Clean galvanized surfaces with nonpetroleum-based solvents so surface is free of oil and surface contaminants. Remove pretreatment from galvanized sheet metal fabricated from coil stock by mechanical methods.

E. Material Preparation:

1. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.

2. Stir material before application to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into material. If necessary, remove surface film and strain material before using.

F. Exposed Surfaces: Include areas visible when permanent or built-in fixtures, grilles, convector covers, covers for finned-tube radiation, and similar components are in place. Extend coatings in these areas, as required, to maintain system integrity and provide desired protection.

1. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Before final installation of equipment, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
2. Paint interior surfaces of ducts with a flat, nonspecular black paint where visible through registers or grilles.
3. Paint back sides of access panels and removable or hinged covers to match exposed surfaces.
4. Finish exterior doors on tops, bottoms, and side edges the same as exterior faces.
5. Finish interior of wall and base cabinets and similar field-finished casework to match exterior.

G. Sand lightly between each succeeding enamel or varnish coat.

H. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.

1. Omit primer over metal surfaces that have been shop primed and touchup painted.
2. If undercoats, stains, or other conditions show through final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance.

I. Application Procedures: Apply paints and coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.

J. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate. Provide total dry film thickness of the entire system as recommended by manufacturer.

K. Mechanical and Electrical Work: Painting of mechanical and electrical work is limited to items exposed in equipment rooms and occupied spaces.

L. Prime Coats: Before applying finish coats, apply a prime coat, as recommended by manufacturer, to material that is required to be painted or finished and that has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no burn-through or other defects due to insufficient sealing.

M. Pigmented (Opaque) Finishes: Completely cover surfaces as necessary to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.

N. Transparent (Clear) Finishes: Use multiple coats to produce a glass-smooth surface film of even luster. Provide a finish free of laps, runs, cloudiness, color irregularity, brush marks, orange peel, nail holes, or other surface imperfections.

3.2 CLEANING AND PROTECTING

A. At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from Project site.

B. Protect work of other trades, whether being painted or not, against damage from painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by COR.

C. Provide "Wet Paint" signs to protect newly painted finishes. After completing painting operations, remove temporary protective wrappings provided by others to protect their work.

1. After work of other trades is complete, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in PDCA P1.

3.3 PAINT SCHEDULES

A. Wherever more than one coat of paint is called for, paint with completely separate coats with the manufacturer’s minimum drying time between coats.

1. Application of separate coats, with manufacturers dry time between, is imperative and absolute. Drying time between coats is mandatory and not to be waived or modified.
2. Under no circumstances is the number of coats to be combined into a lesser number with an, “equivalent” thickness to attempt to equal separate coats, applied individually.
3. Applications called, “Equivalent”, with fewer than the specified number of coats, but equal to the total thickness, are not acceptable.
4. To assure performance, keep a record of application of each coat, each location, with dates of application, substrate, type of paint, names of applicators, and ambient conditions. Submit the record to the Government for review and acceptance in authorizing payment for the work.

3.4 INTERIOR PAINT SCHEDULE General: Provide the following paint systems for the various substrates, as indicated. Apply additional coats when undercoats, previous coatings or other conditions show through the final coat, until the cured film is of uniform coating finish, color and appearance.

A. SYSTEM NO. 1

1. Acrylic-Enamel over Gypsum Board. Match existing adjacent finish
   a. Apply at exposed gypsum board wall surfaces scheduled to receive low luster, or satin finish paint.

2. Provide two finish coats over a primer as follows:
   a. Primer: Latex based interior applied rate recommended by manufacturer to achieve a total dry film thickness of not less than 1.2 mils.
      1) Moore: Regal First Coat Interior Latex Primer & Underbody #216
      2) PPG: 17-10 Quick-Drying Interior Latex Primer Sealer.

   b. First and Second Coats: Low-Lustre (eggshell or satin), acrylic-latex-interior paint applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 2.8 mils.
      1) Moore: Moore's Regal AquaVelvet #319
      2) PPG: 89-Line Manor Hall Eggshell Latex Wall and Trim Enamel

B. SYSTEM NO. 15

1. Waterborne Satin –Varnish Finish. Match adjacent wood finishes:
   a. Apply at hardwood surfaces to receive transparent finish.

2. Provide two finish coats of a waterborne, clear satin varnish over sealer coat and a waterborne, interior wood stain. Wipe wood filler before applying stain, if recommended by the manufacturer for wood species indicated.

   a. Stain Coat: Waterborne, interior wood stain applied at spreading rate recommended by the manufacturer.
      1) Moore: Benwood Penetrating Stain #234
      2) PPG: 77-302 Rez Interior Semi-transparent Stain.

   b. Sealer Coat: Clear sanding sealer applied at spreading rate recommended by the manufacturer.
      1) Moore: (None recommended)
      2) PPG: 77-Rez Interior Quick Drying Sealer and Finish.

c. First and Second Finish Coats: Waterborne, varnish finish applied at spreading rate recommended by manufacturer.
   1) Moore: Stays Clear Acrylic Polyurethane #423, Satin
   2) PPG: Rez Satin Acrylic Clear Polyurethane

END OF SECTION 09912