

SECTION 09912 - PAINTING (PROFESSIONAL LINE PRODUCTS)

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, Architect will select from standard colors and finishes available.
 - 1. Painting includes field painting of exposed bare and covered pipes and ducts (including color coding), hangers, exposed steel and iron supports, and surfaces of mechanical and electrical equipment that do not have a factory-applied final finish.
- 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. Metal lockers.
 - c. Unit kitchens.
 - d. Elevator entrance doors and frames.
 - e. Elevator equipment.
 - f. Finished mechanical and electrical equipment.
 - g. Light fixtures.
 - 2. Concealed surfaces include walls or ceilings in the following generally inaccessible spaces:
 - a. Foundation spaces.
 - b. Furred areas.
 - c. Ceiling plenums.
 - d. Pipe spaces.
 - e. Elevator shafts.
 - 3. Finished metal surfaces include the following:
 - a. Anodized aluminum.
 - b. Stainless steel.
 - c. Chromium plate.
 - d. Copper and copper alloys.
 - e. Bronze and brass.
 - 4. 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.
 - 5. 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. Semigloss refers to medium-sheen finish with a gloss range between 35 and 70 when measured at a 60-degree meter.

1.3 SUBMITTALS

- A. Product Data: For each paint system indicated. Include block fillers and primers.
 - 1. 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.
 - 2. 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 finish-coat material indicated.
 - 1. After color selection, Architect will furnish color chips for surfaces to be coated.

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 and primers for each coating system from the same manufacturer as the finish coats.
- C. Benchmark Samples (Mockups): Provide a full-coat benchmark finish sample for each type of coating and substrate required. Comply with procedures specified in PDCA P5. Duplicate finish of approved sample Submittals.
 - 1. Architect will select one room or surface to represent surfaces and conditions for application of each type of coating and substrate.
 - a. Wall Surfaces: Provide samples on at least 100 sq. ft. (9 sq. m).
 - b. Small Areas and Items: Architect will designate items or areas required.
 - 2. Apply benchmark samples, according to requirements for the completed Work, after permanent lighting and other environmental services have been activated. Provide required sheen, color, and texture on each surface.
 - a. After finishes are accepted, Architect will use the room or surface to evaluate coating systems of a similar nature.
 - 3. Final approval of colors will be from benchmark samples.

1.5 DELIVERY, STORAGE, AND HANDLING

- 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.
- B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F (7 deg C). Maintain storage containers in a clean condition, free of foreign materials and residue.
 - 1. Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily.

1.6 PROJECT CONDITIONS

- A. Apply waterborne paints only when temperatures of surfaces to be painted and surrounding air are between 50 and 90 deg F (10 and 32 deg C).

- B. Apply solvent-thinned paints only when temperatures of surfaces to be painted and surrounding air are between 45 and 95 deg F (7 and 35 deg C).
- C. Do not apply paint in snow, rain, fog, or mist; or when relative humidity exceeds 85 percent; or at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.
 - 1. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by manufacturer during application and drying periods.

1.7 EXTRA MATERIALS

- A. Furnish extra paint materials from the same production run as the materials applied and in the quantities described below. Package with protective covering for storage and identify with labels describing contents. Deliver extra materials to Owner.
 - 1. Quantity: Furnish Owner with extra paint materials in quantities indicated below:
 - a. Exterior, Low-Luster Acrylic Finish: 2 gal. (7.5 L) of each color applied.
 - b. Exterior, Semigloss Acrylic Enamel: 2 gal. (7.5 L) of each color applied.
 - c. Interior, Low-Luster Acrylic Finish: 2 gal. (7.5 L) of each color applied.
 - d. Interior, Semigloss Acrylic Enamel: 2 gal. (7.5 L) of each color applied.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Products: Subject to compliance with requirements, provide one of the products listed in other Part 2 articles.
- B. Manufacturers' Names: Shortened versions (shown in parentheses) of the following manufacturers' names are used in other Part 2 articles:
 - 1. Benjamin Moore & Co. (Benjamin Moore).
 - 2. PPG Industries, Inc. (Pittsburgh Paints).
 - 3. Sherwin-Williams Co. (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.
 - 1. Proprietary Names: Use of manufacturer's proprietary product names to designate colors or materials is not intended to imply that products named are required to be used to the exclusion of equivalent products of other manufacturers. Furnish manufacturer's material data and certificates of performance for proposed substitutions.
- C. Chemical Components of Interior Paints and Coatings: Provide products that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24) and the following chemical restrictions:
 - 1. Flat Paints and Coatings: VOC content of not more than 50 g/L.
 - 2. Non-Flat Paints and Coatings: VOC content of not more than 150 g/L.
 - 3. Anticorrosive Coatings: VOC content of not more than 250 g/L.
 - 4. Varnishes and Sanding Sealers: VOC content of not more than 350 g/L.
 - 5. Stains: VOC content of not more than 250 g/L.
 - 6. 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).

- D. Colors: As selected by Architect from manufacturer's full range.

2.3 CONCRETE UNIT MASONRY BLOCK FILLERS

- A. Concrete Unit Masonry Block Filler: Factory-formulated high-performance latex block fillers.
 - 1. Benjamin Moore; Moorcraft Super Craft Latex Block Filler No. 285: Applied at a dry film thickness of not less than 8.1 mils (0.206 mm).
 - 2. Pittsburgh Paints; 6-7 SpeedHide Interior/Exterior Masonry Latex Block Filler: Applied at a dry film thickness of not less than 6.0 to 12.5 mils (0.152 to 0.318 mm).
 - 3. Sherwin-Williams; PrepRite Interior/Exterior Block Filler B25W25: Applied at a dry film thickness of not less than 8.0 mils (0.203 mm).

2.4 EXTERIOR PRIMERS

- A. Exterior Ferrous-Metal Primer: Factory-formulated rust-inhibitive metal primer for exterior application.
 - 1. Benjamin Moore; Moore's IMC Alkyd Metal Primer No. M06: Applied at a dry film thickness of not less than 2.0 mils (0.051 mm).
 - 2. Pittsburgh Paints; 90-712 Pitt-Tech One Pack Interior/Exterior Primer Finish DTM Industrial Enamel: Applied at a dry film thickness of not less than 3.0 mils (0.076 mm).
 - 3. Sherwin-Williams; Kem Kromik Universal Metal Primer B50NZ6/B50WZ1: Applied at a dry film thickness of not less than 3.0 mils (0.076 mm).
- B. Exterior Galvanized Metal Primer: Factory-formulated galvanized metal primer for exterior application.
 - 1. Benjamin Moore; Moore's IMC Acrylic Metal Primer No. M04: Applied at a dry film thickness of not less than 2.0 mils (0.051 mm).
 - 2. Pittsburgh Paints; 90-709 Pitt-Tech One Pack Interior/Exterior Primer/Finish DTM Industrial Enamel: Applied at a dry film thickness of not less than 3.0 mils (0.076 mm).
 - 3. Sherwin-Williams; primer not required over this substrate.

2.5 INTERIOR PRIMERS

- A. Interior Concrete and Masonry Primer: Factory-formulated alkali-resistant acrylic-latex interior primer for interior application.
 - 1. Benjamin Moore; Moorcraft Super Spec Latex Enamel Undercoater & Primer Sealer No. 253: Applied at a dry film thickness of not less than 1.2 mils (0.030 mm).
 - 2. Pittsburgh Paints; 6-2 SpeedHide Interior Quick-Drying Latex Sealer: Applied at a dry film thickness of not less than 1.0 mil (0.025 mm).
 - 3. Sherwin-Williams; PrepRite Masonry Primer B28W300: Applied at a dry film thickness of not less than 3.0 mils (0.076 mm).
- B. Interior Gypsum Board Primer: Factory-formulated latex-based primer for interior application.
 - 1. Benjamin Moore; Moorcraft Super Spec Latex Enamel Undercoater & Primer Sealer No. 253: Applied at a dry film thickness of not less than 1.2 mils (0.030 mm).
 - 2. Pittsburgh Paints; 6-2 SpeedHide Interior Quick-Drying Latex Sealer: Applied at a dry film thickness of not less than 1.0 mil (0.025 mm).
 - 3. Sherwin-Williams; PrepRite 200 Latex Wall Primer B28W200 Series: Applied at a dry film thickness of not less than 1.6 mils (0.041 mm).
- C. Interior Ferrous-Metal Primer: Factory-formulated quick-drying rust-inhibitive alkyd-based metal primer.
 - 1. Benjamin Moore; Moore's IMC Alkyd Metal Primer No. M06: Applied at a dry film thickness of not less than 2.0 mils (0.051 mm).
 - 2. Pittsburgh Paints; 90-709 Pitt-Tech One Pack Interior/Exterior Primer/Finish DTM Industrial Enamel: Applied at a dry film thickness of not less than 1.5 mils (0.038 mm).
 - 3. Sherwin-Williams; Kem Kromik Universal Metal Primer B50NZ6/B50WZ1: Applied at a dry film thickness of not less than 3.0 mils (0.076 mm).
- D. Interior Zinc-Coated Metal Primer: Factory-formulated galvanized metal primer.
 - 1. Benjamin Moore; Moore's IMC Acrylic Metal Primer No. M04: Applied at a dry film thickness of not less than 2.0 mils (0.051 mm).

2. Pittsburgh Paints; 90-709 Pitt-Tech One Pack Interior/Exterior Primer/Finish DTM Industrial Enamel: Applied at a dry film thickness of not less than 3.0 mils (0.076 mm).
3. Sherwin-Williams; primer not required over this substrate.

2.6 EXTERIOR FINISH COATS

- A. Exterior Low-Luster Acrylic Paint: Factory-formulated low-sheen (eggshell) acrylic-latex paint for exterior application.
 1. Benjamin Moore; Moorcraft Super Spec Low Lustre Latex House Paint No. 185: Applied at a dry film thickness of not less than 1.0 mil (0.025 mm).
 2. Pittsburgh Paints; 6-2000 Series SpeedHide Exterior House & Trim Satin--Acrylic Latex: Applied at a dry film thickness of not less than 1.0 mil (0.025 mm).
 3. Sherwin-Williams; A-100 Exterior Latex Satin House & Trim Paint A82 Series: Applied at a dry film thickness of not less than 1.5 mils (0.038 mm).
- B. Exterior Semigloss Acrylic Enamel: Factory-formulated semigloss waterborne acrylic-latex enamel for exterior application.
 1. Benjamin Moore; Moorcraft Super Spec Latex House & Trim Paint No. 170: Applied at a dry film thickness of not less than 1.1 mils (0.028 mm).
 2. Pittsburgh Paints; 6-900 Series SpeedHide Exterior House & Trim Semi-Gloss Acrylic Latex Paint: Applied at a dry film thickness of not less than 1.5 mils (0.038 mm).
 3. Sherwin-Williams; A-100 Latex Gloss A8 Series: Applied at a dry film thickness of not less than 1.3 mils (0.033 mm).

2.7 INTERIOR FINISH COATS

- A. Interior Flat Latex-Emulsion Size: Factory-formulated flat latex-based interior paint.
 1. Benjamin Moore; Moorcraft Super Spec Latex Flat No. 275: Applied at a dry film thickness of not less than 1.2 mils (0.031 mm).
 2. Pittsburgh Paints; 6-70 Line SpeedHide Interior Wall Flat-Latex Paint: Applied at a dry film thickness of not less than 1.0 mil (0.025 mm).
 3. Sherwin-Williams; ProMar 200 Interior Latex Flat Wall Paint B30W200 Series: Applied at a dry film thickness of not less than 1.4 mils (0.036 mm).
- B. Interior Low-Luster Acrylic Enamel: Factory-formulated eggshell acrylic-latex interior enamel.
 1. Benjamin Moore; Moorcraft Super Spec Latex Eggshell Enamel No. 274: Applied at a dry film thickness of not less than 1.3 mils (0.033 mm).
 2. Pittsburgh Paints; 6-400 Series SpeedHide Eggshell Acrylic Latex Enamel: Applied at a dry film thickness of not less than 1.25 mils (0.032 mm).
 3. Sherwin-Williams; ProMar 200 Interior Latex Egg-Shell Enamel B20W200 Series: Applied at a dry film thickness of not less than 1.6 mils (0.041 mm).
- C. Interior Semigloss Acrylic Enamel: Factory-formulated semigloss acrylic-latex enamel for interior application.
 1. Benjamin Moore; Moorcraft Super Spec Latex Semi-Gloss Enamel No. 276: Applied at a dry film thickness of not less than 1.2 mils (0.031 mm).
 2. Pittsburgh Paints; 6-500 Series SpeedHide Interior Semi-Gloss Latex: Applied at a dry film thickness of not less than 1.0 mil (0.025 mm).
 3. Sherwin-Williams; ProMar 200 Interior Latex Semi-Gloss Enamel B31W200 Series: Applied at a dry film thickness of not less than 1.3 mils (0.033 mm).

2.8 INTERIOR WOOD STAINS AND VARNISHES

- A. Open-Grain Wood Filler: Factory-formulated paste wood filler applied at spreading rate recommended by manufacturer.
 1. Benjamin Moore; Benwood Paste Wood Filler No. 238.
 2. Pittsburgh Paints; none required.
 3. Sherwin-Williams; Sher-Wood Fast-Dry Filler.

- B. Clear Sanding Sealer: Factory-formulated fast-drying alkyd-based clear wood sealer applied at spreading rate recommended by manufacturer.
 - 1. Pittsburgh Paints; 6-10 SpeedHide Quick-Drying Interior Sanding Wood Sealer and Finish.
 - 2. Sherwin-Williams; Wood Classics Fast Dry Sanding Sealer B26V43.
- C. Interior Alkyd- or Polyurethane-Based Clear Satin Varnish: Factory-formulated alkyd- or polyurethane-based clear varnish.
 - 1. Benjamin Moore; Benwood Interior Wood Finishes Polyurethane Finishes Low Lustre No. 435.
 - 2. Pittsburgh Paints; 77-7 Rez Varnish, Interior Satin Oil Clear.
 - 3. Sherwin-Williams; Wood Classics Fast Dry Oil Varnish, Satin A66-300 Series.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements for paint application.
 - 1. Proceed with paint application only after unsatisfactory conditions have been corrected and surfaces receiving paint are thoroughly dry.
 - 2. Start of painting will be construed as Applicator's acceptance of surfaces and conditions within a particular area.
- 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.
 - 1. Notify Architect about anticipated problems when using the materials specified over substrates primed by others.

3.2 PREPARATION

- A. General: 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.
- B. Cleaning: Before applying paint or other surface treatments, clean substrates of substances that could impair bond of the various coatings. Remove oil and grease before cleaning.
 - 1. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.
- C. 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: Prepare concrete, concrete unit masonry, cement plaster, and mineral-fiber-reinforced cement panel surfaces to be painted. 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.
 - a. Use abrasive blast-cleaning methods if recommended by paint manufacturer.
 - b. Determine alkalinity and moisture content of surfaces by performing appropriate tests. If surfaces are sufficiently alkaline to cause the finish paint to blister and burn, correct this condition before application. Do not paint surfaces if moisture content exceeds that permitted in manufacturer's written instructions.
 - c. Clean concrete floors to be painted with a 5 percent solution of muriatic acid or other etching cleaner. Flush the floor with clean water to remove acid, neutralize with ammonia, rinse, allow to dry, and vacuum before painting.
 - 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 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.
- D. Material Preparation: Mix and prepare paint materials according to manufacturer's written instructions.
- 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.
 - 3. Use only thinners approved by paint manufacturer and only within recommended limits.
- E. Tinting: Tint each undercoat a lighter shade to simplify identification of each coat when multiple coats of same material are applied. Tint undercoats to match the color of the finish coat, but provide sufficient differences in shade of undercoats to distinguish each separate coat.

3.3 APPLICATION

- A. General: Apply paint according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.
- 1. Paint colors, surface treatments, and finishes are indicated in the paint schedules.
 - 2. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
 - 3. Provide finish coats that are compatible with primers used.
 - 4. The term "exposed surfaces" includes areas visible when permanent or built-in fixtures, grilles, convactor 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.
 - 5. 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.
 - 6. Paint interior surfaces of ducts with a flat, nonspecular black paint where visible through registers or grilles.
 - 7. Paint back sides of access panels and removable or hinged covers to match exposed surfaces.
 - 8. Finish exterior doors on tops, bottoms, and side edges the same as exterior faces.
 - 9. Finish interior of wall and base cabinets and similar field-finished casework to match exterior.
 - 10. Sand lightly between each succeeding enamel or varnish coat.

- B. 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. The number of coats and film thickness required are the same regardless of application method. Do not apply succeeding coats until previous coat has cured as recommended by manufacturer. If sanding is required to produce a smooth, even surface according to manufacturer's written instructions, sand between applications.
 2. Omit primer over metal surfaces that have been shop primed and touchup painted.
 3. 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. Give special attention to ensure that edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.
 4. Allow sufficient time between successive coats to permit proper drying. Do not recoat surfaces until paint has dried to where it feels firm, and does not deform or feel sticky under moderate thumb pressure, and until application of another coat of paint does not cause undercoat to lift or lose adhesion.
- C. Application Procedures: Apply paints and coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.
1. Brushes: Use brushes best suited for type of material applied. Use brush of appropriate size for surface or item being painted.
 2. Rollers: Use rollers of carpet, velvet-back, or high-pile sheep's wool as recommended by manufacturer for material and texture required.
 3. Spray Equipment: Use airless spray equipment with orifice size as recommended by manufacturer for material and texture required.
 4. ***Balcony railings and infill panels, stair railings, perforated metal light reflectors, and other decorative metal fabrications shall be spray painted, not brushed. [Add2-18.b]***
- D. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate to achieve dry film thickness indicated. Provide total dry film thickness of the entire system as recommended by manufacturer.
- E. Mechanical and Electrical Work: Painting of mechanical and electrical work is limited to items exposed in equipment rooms and occupied spaces.
- F. Mechanical items to be painted include, but are not limited to, the following:
1. Uninsulated metal piping.
 2. Pipe hangers and supports.
 3. Tanks that do not have factory-applied final finishes.
 4. Visible portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets.
 5. Duct, equipment, and pipe insulation having "all-service jacket" or other paintable jacket material.
 6. Mechanical equipment that is indicated to have a factory-primed finish for field painting.
- G. Electrical items to be painted include, but are not limited to, the following:
1. Switchgear.
 2. Panelboards.
 3. Electrical equipment that is indicated to have a factory-primed finish for field painting.
- H. Block Fillers: Apply block fillers to concrete masonry block at a rate to ensure complete coverage with pores filled.
- I. 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.
- J. 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.

- K. 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.
 - 1. Provide satin finish for final coats.
- L. Stipple Enamel Finish: Roll and redistribute paint to an even and fine texture. Leave no evidence of rolling, such as laps, irregularity in texture, skid marks, or other surface imperfections.
- M. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with requirements.

3.4 FIELD QUALITY CONTROL

- A. Owner reserves the right to invoke the following test procedure at any time and as often as Owner deems necessary during the period when paint is being applied:
 - 1. Owner will engage a qualified independent testing agency to sample paint material being used. Samples of material delivered to Project will be taken, identified, sealed, and certified in the presence of Contractor.
 - 2. Testing agency will perform appropriate tests for the following characteristics as required by Owner:
 - 3. Owner may direct Contractor to stop painting if test results show material being used does not comply with specified requirements. Contractor shall remove noncomplying paint from Project site, pay for testing, and repaint surfaces previously coated with the noncomplying paint. If necessary, Contractor may be required to remove noncomplying paint from previously painted surfaces if, on repainting with specified paint, the two coatings are incompatible.

3.5 CLEANING

- A. Cleanup: At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from Project site.
 - 1. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping without scratching or damaging adjacent finished surfaces.

3.6 PROTECTION

- A. 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 Architect.
- B. 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.

3.7 EXTERIOR PAINT SCHEDULE

- A. Concrete Unit Masonry: Provide the following finish systems over exterior concrete unit masonry:
 - 1. Low-Luster Acrylic Finish: Two finish coats over a block filler.
 - a. Block Filler: Concrete unit masonry block filler.
 - b. Finish Coats: Exterior low-luster acrylic paint.
- B. Ferrous Metal: Provide the following finish systems over exterior ferrous metal. Primer is not required on shop-primed items.
 - 1. Semigloss Acrylic-Enamel Finish: Two finish coats over a rust-inhibitive primer.
 - a. Primer: Exterior ferrous-metal primer.
 - b. Finish Coats: Exterior semigloss acrylic enamel.
- C. Zinc-Coated Metal: Provide the following finish systems over exterior zinc-coated metal surfaces:
 - 1. Semigloss Acrylic-Enamel Finish: Two finish coats over a galvanized metal primer.
 - a. Primer: Exterior galvanized metal primer.
 - b. Finish Coats: Exterior semigloss acrylic enamel.

3.8 INTERIOR PAINT SCHEDULE

- A. Concrete and Masonry (Other Than Concrete Unit Masonry): Provide the following paint systems over interior concrete and brick masonry substrates:
 - 1. Low-Luster Acrylic-Enamel Finish: Two finish coats over a primer.
 - a. Primer: Interior concrete and masonry primer.
 - b. Finish Coats: Interior low-luster acrylic enamel.
- B. Concrete Unit Masonry: Provide the following finish systems over interior concrete masonry:
 - 1. Low-Luster Acrylic-Enamel Finish: Two finish coats over a block filler.
 - a. Block Filler: Concrete unit masonry block filler.
 - b. Finish Coats: Interior low-luster acrylic enamel.
- C. Gypsum Board: Provide the following finish systems over interior gypsum board surfaces:
 - 1. Low-Luster Acrylic-Enamel Finish: Two finish coats over a primer.
 - a. Primer: Interior gypsum board primer.
 - b. Finish Coats: Interior low-luster acrylic enamel.
- D. Ferrous Metal: Provide the following finish systems over ferrous metal:
 - 1. Semigloss Acrylic-Enamel Finish: One finish coat over a primer.
 - a. Primer: Interior ferrous-metal primer.
 - b. Finish Coats: Interior semigloss acrylic enamel.
- E. Zinc-Coated Metal: Provide the following finish systems over interior zinc-coated metal surfaces:
 - 1. Semigloss Acrylic-Enamel Finish: One finish coat over a primer.
 - a. Primer: Interior zinc-coated metal primer.
 - b. Finish Coats: Interior semigloss acrylic enamel.

3.9 INTERIOR STAIN AND NATURAL-FINISH WOODWORK SCHEDULE

- A. Natural-Finish Woodwork: Provide the following natural finishes over new interior woodwork:
 - 1. Alkyd-Based Satin-Varnish Finish: Two finish coats of alkyd-based clear satin varnish over a sanding sealer. Provide wood filler on open-grain wood before applying first varnish coat.
 - a. Filler Coat: Open-grain wood filler.
 - b. Sealer Coat: Clear sanding sealer.
 - c. Finish Coats: Interior alkyd- or polyurethane-based clear satin varnish.

END OF SECTION 09912