

SECTION 09900 - PAINTING

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes surface preparation and field painting of the following:
 - 1. Exposed exterior items and surfaces.
 - 2. Exposed interior items and surfaces.
 - 3. 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 the paint schedules indicate that a surface or material is not to be painted or is to remain natural. If the paint schedules do not specifically mention an item or a surface, paint the item or surface the same as similar adjacent materials or surfaces whether or not schedules indicate colors. If the schedules do not indicate color or finish, the 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 ironwork, and primed metal surfaces of mechanical and electrical equipment.
- 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 and casework.
 - b. Finished mechanical and electrical equipment.
 - c. Light fixtures.
 - 2. Concealed surfaces include walls or ceilings in the following generally inaccessible spaces:
 - a. Foundation spaces.
 - b. Furred areas.
 - c. Pipe spaces.
 - d. Duct shafts.
 - 3. Finished metal surfaces include the following:
 - a. Anodized aluminum.
 - b. Stainless steel.
 - c. Chromium plate.
 - d. Copper.
 - 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 Underwriters Laboratories (UL), Factory Mutual (FM), or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.
- D. Related Sections include the following:
 - 1. Division 2 Section "Hot-Mix Asphalt Paving" for traffic-marking paint.

2. Division 8 Section "Steel Doors and Frames" for shop priming steel doors and frames.
3. Division 9 Section "Gypsum Board Assemblies" for surface preparation for gypsum board.
4. Divisions 15 and 16: Painting of mechanical and electrical work is specified in Divisions 15 and 16, respectively.

1.03 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 5 and 20 when measured at a 60-degree meter.
 3. Semigloss refers to medium-sheen finish with a gloss range between 30 and 65 when measured at a 60-degree meter.
 4. Full gloss refers to high-sheen finish with a gloss range more than 65 when measured at a 60-degree meter.

1.04 SUBMITTALS

- A. Product Data: For each paint system specified. Include block fillers and primers.
 1. Material List: Provide 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: Provide manufacturer's technical information, including label analysis and instructions for handling, storing, and applying each coating material proposed for use.
 3. Certification by the manufacturer that products supplied comply with local regulations controlling use of volatile organic compounds (VOCs).
- B. Samples for Initial Selection: Manufacturer's color charts showing the full range of colors available for each type of finish-coat material indicated.

1.05 QUALITY ASSURANCE

- A. Applicator Qualifications: Engage an experienced applicator who has completed painting system applications similar in material and extent to that indicated for this Project with a record of successful in-service performance.
- B. Source Limitations: Obtain block fillers, primers, and undercoat materials for each coating system from the same manufacturer as the finish coats.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to the 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 containers used in storage 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. Take necessary measures to ensure that workers and work areas are protected from fire and health hazards resulting from handling, mixing, and application.

1.07 PROJECT CONDITIONS

- A. Apply water-based paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 50 and 90 deg F (10 and 32 deg C).
- B. Apply solvent-thinned paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 45 and 95 deg F (7.2 and 35 deg C).
- C. Do not apply paint in snow, rain, fog, or mist; or when the 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.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products listed in the paint schedules.

2.02 PAINT MATERIALS, GENERAL

- A. Material Compatibility: Provide block fillers, primers, undercoats, and finish-coat materials that are compatible with one another and 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. 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. Colors: Match Owner's samples.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine substrates, areas, and conditions, with the Applicator present, under which painting will be performed for compliance with paint application requirements.
 1. Do not begin to apply paint until unsatisfactory conditions have been corrected and surfaces receiving paint are thoroughly dry.

2. Start of painting will be construed as the 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 the Architect about anticipated problems using the materials specified over substrates primed by others.

3.02 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 the 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 the substrates of substances that could impair the 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 masonry block, 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 where moisture content exceeds that permitted in manufacturer's written instructions.
 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 backsides of wood, including cabinets, counters, cases, and paneling.
 - c. When transparent finish is required, backprime with spar varnish.
 - d. Backprime paneling on interior partitions where masonry, plaster, or other wet wall construction occurs on backside.
 - 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 the Steel Structures Painting Council's (SSPC) recommendations.

- a. 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 the 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. Materials 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.

3.03 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 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, convactor covers, covers for finned-tube radiation, grilles, and similar components are in place. Extend coatings in these areas, as required, to maintain the system integrity and provide desired protection.
 5. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Before the 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 backsides 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. 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.
- C. Insert restrictions or limits on use of spray equipment if necessary to suit special Project conditions.
1. The number of coats and the film thickness required are the same regardless of application method. Do not apply succeeding coats until the previous coat has cured as recommended by the manufacturer. If sanding is required to produce a smooth, even surface according to manufacturer's written instructions, sand between applications.
 2. Omit primer on 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 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, does not deform or feel sticky under moderate thumb pressure, and where application of another coat of paint does not cause the undercoat to lift or lose adhesion.
- D. 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 the type of material applied. Use brush of appropriate size for the surface or item being painted.
 2. Rollers: Use rollers of carpet, velvet back, or high-pile sheep's wool as recommended by the manufacturer for the material and texture required.
 3. Spray Equipment: Use airless spray equipment with orifice size as recommended by the manufacturer for the material and texture required.
- E. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate. Provide the total dry film thickness of the entire system as recommended by the manufacturer.
- F. Mechanical and Electrical Work: Painting of mechanical and electrical work is limited to items exposed in occupied spaces.
- G. Block Fillers: Apply block fillers to concrete masonry block at a rate to ensure complete coverage with pores filled.
- H. Prime Coats: Before applying finish coats, apply a prime coat of material, as recommended by the 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.
- I. 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.
- J. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with requirements.

3.04 CLEANING

- A. Cleanup: At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from the site.
1. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping. Be careful not to scratch or damage adjacent finished surfaces.

3.05 PROTECTION

- A. Protect work of other trades, whether being painted or not, against damage by painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect.
- B. Provide "Wet Paint" signs to protect newly painted finishes. Remove temporary protective wrappings provided by others to protect their work after completing painting operations.
1. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in PDCA P1.

3.06 EXTERIOR PAINT SCHEDULE

- A. Concrete and Masonry Units: Provide the following finish systems over exterior concrete and masonry units:
1. Low-luster Acrylic Finish: 2 finish coats over a primer and block filler.
 - a. Block Filler: Factory-formulated high-performance latex block fillers applied at a dry film thickness of not less than 7.0 to 14.5 mils (0.178 to 0.368mm)
 - 1) ICI Paint Stores Inc.: Ultra-Hide Bloxfil 3010-1200 Interior/Exterior Heavy Duty Acrylic Block Filler.
 - 2) Rose Talbert: #690 Premium Vinyl Block Filler.
 - b. Primer: Exterior, alkyd- or alkali-resistant, acrylic-latex primer, as recommended by the manufacturer for this substrate, applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.6 mils (0.041 mm).
 - 1) ICI Paint Stores Inc., Ultra-Hide Duras Exterior Acrylic Primecoat 2010.
 - 2) Rose Talbert: #200 Bondaplex Acrylic House & Trim Paint.
 - c. First and Second Coats: Low-luster (eggshell or satin), exterior, acrylic-latex paint applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.4 mils (0.036 mm).
 - 1) ICI Paint Stores Inc., Ultra-Hide Duras Exterior Acrylic Satin Finish 2412-0100.
 - 2) Rose Talbert: #200 Bondaplex Acrylic House & Trim Paint
- B. Wood: Provide the following finish systems over exterior wood surfaces:
1. Low-Luster Acrylic Finish: 2 finish coats over a primer.
 - a. Primer: Exterior, alkyd or latex, wood primer, as recommended by the manufacturer for this substrate, applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.6 mils (0.041 mm).
 - 1) ICI Paint Stores Inc., Ultra-Hide Duras Exterior Acrylic Primecoat 2010.
 - 2) Rose Talbert #120 Premium Reinforced Primer.
 - b. First and Second Coats: Low-sheen (eggshell or satin), exterior, latex paint applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.4 mils (0.036 mm).
 - 1) ICI Paint Stores Inc., Ultra-Hide Duras Exterior Acrylic Satin Finish 2412-0100.
 - 2) Rose Talbert: #200 Bondaplex Acrylic House & Trim Paint.
- C. Ferrous Metal: Provide the following finish systems over exterior ferrous metal. Primer is not required on shop-primed items.
1. Low-Luster Acrylic Finish: 2 finish coats over a rust-inhibitive primer.
 - a. Primer: Rust-inhibitive metal primer applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 2.2 mils (0.056 mm).
 - 1) ICI Paint Stores Inc. Devflex 4020 DTM Interior/Exterior Waterborne Primer and Finish.
 - 2) Rose Talbert: #78 Corrosion Resistant Metal Primer.

- b. First and Second Coat: Low-sheen (eggshell or satin), exterior, acrylic-latex paint applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.4 mils (0.036 mm).
 - 1) ICI Paint Stores Inc., Ultra-Hide Duras Exterior Acrylic Satin Finish 2412-0100.
 - 2) Rose Talbert: #200 Bondaplex Acrylic House & Trim Paint.
- D. Zinc-Coated Metal: Provide the following finish systems over exterior zinc-coated (galvanized) metal surfaces:
 - 1. Low-Luster Finish: 2 finish coats over a galvanized metal primer.
 - a. Primer: Galvanized metal primer applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.6 mils (0.041 mm).
 - 1) ICI Paint Stores Inc., Ultra-Hide Duras Exterior Acrylic Primecoat 2010.
 - 2) Rose Talbert:#76 Zinc Chromate Metal Primer.
 - b. First and Second Coat: Low-luster (eggshell or satin), exterior, acrylic-latex paint applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.4 mils (0.036 mm).
 - 1) ICI Paint Stores Inc., Ultra-Hide Duras Exterior Acrylic Satin Finish 2412-0100.
 - 2) Rose Talbert:#200 Bondaplex Acrylic House & Trim Paint..
- E. Aluminum Surfaces: Provide the following finish systems over exterior aluminum surfaces:
 - 1. Low-Luster Finish: 2 finish coats over a galvanized metal primer.
 - a. Primer: Rust-inhibitive, acrylic- or alkyd-based, metal primer, as recommended by the manufacturer for use over aluminum, applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.6 mils (0.041 mm).
 - 1) ICI Paint Stores Inc., Ultra-Hide Duras Exterior Acrylic Primecoat 2010.
 - 2) Rose Talbert: #76 Zinc Chromate Metal Primer.
 - b. First and Second Coats: Low-luster (eggshell or satin), exterior, acrylic-latex enamel applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.4 mils (0.036 mm).
 - 1) ICI Paint Stores Inc., Ultra-Hide Duras Exterior Acrylic Satin Finish.
 - 2) Rose Talbert:#200 Bondaplex Acrylic House & Trim Paint..

3.07 INTERIOR PAINT SCHEDULE

- A. Gypsum Board Walls and Ceilings: Provide the following finish systems over interior gypsum board surfaces:
 - 1. Walls and Ceilings, (unless noted otherwise): Flat acrylic-latex finish, 2 finish coats over primer.
 - a. Primer: Latex-based, interior primer applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.9 mils (0.048 mm).
 - 1) ICI Paint Stores Latex Primer 1030.
 - 2) Rose Talbert #690 Premium Vinyl Emulsion Primer.
 - b. First and Second Coats: Flat, latex-based, interior paint applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.4 mils (0.036 mm).
 - 1) ICI Paint Stores Ultra-Hide Latex Flat Interior Wall Paint 1210.
 - 2) Rose Talbert: #600 Premium Velvet Vinyl Latex Interior.
 - 2. Kitchens, Baths, Dryer Walls and Ceilings: Semi-gloss latex enamel, 2 finish coats over primer.
 - a. Primer: Latex-based, interior primer applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.8 mils (0.046 mm).
 - 1) ICI Paint Stores, Aquacrylic Gripper 3210

- 2) Rose Talbert: #690 Premium Vinyl Emulsion Primer.
- b. First and Second Coats: Latex-based, interior enamel applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.5 mils (0.038 mm).
 - 1) ICI Paint Stores, Ultra-Hide Latex Semi-Gloss Interior Wall and Trim Enamel 1416.
 - 2) Rose Talbert: #400 Premium Acrylic Semi Gloss Enamel.
- B. Interior Wood Doors and Trims: Semi-Gloss, Latex Enamel Finish, 2 Finish coats over Primer.
 - 1. Primer: None
 - a. Stain with Minwax Golden Oak or Equal.
 - b. Apply two (2) coats of polyurethane, lightly sanding in between applications.
- C. Interior Metal Door Frames: Semi-Gloss, Latex Enamel Finish, 2 Finish Coats over Primer.
 - 1. Primer: Latex-based, interior primer applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.8 mils (0.046 mm).
 - a. ICI Paint Stores, Aquacrylic Gripper 3210.
 - b. Rose Talbert: #690 Premium Vinyl Emulsion Primer.
 - c. First and Second Coats: Latex-based, interior enamel applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.5 mils (0.038 mm).
 - 1) ICI Paint Stores, Ultra-Hide Latex Semi-Gloss Interior Wall and Trim Enamel 1416.
 - 2) Rose Talbert: #400 Premium Acrylic Semi Gloss Enamel.

3.08 SCHEDULE - COLORS

- A. Colors as selected by the Columbia Housing Authority. Paint sheens shall be flat unless otherwise noted.

Typically as follows:

- 1. Columbia Housing Authority Bone White:
 - a. Interior walls (Bathrooms and kitchens shall receive semi gloss)
- 2. Ceiling White
 - a. All interior ceilings.
 - b. All interior trim and shelves (Shall be semi gloss)
- 3. Interior Doors and Handrails
 - a. Stain with Minwax Golden Oak

END OF SECTION 09900