

SECTION 09900

PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 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.
- C. Do not paint prefinished items, finished metal surfaces, operating parts, and labels.
 - 1. Prefinished items include the following factory-finished components:
 - a. Plastic toilet enclosures
 - b. Metal lockers
 - c. Casework
 - d. Finished mechanical and electrical equipment
 - e. Light fixtures
 - f. Distribution cabinets
 - 2. Concealed surfaces include walls or ceilings in the following generally inaccessible spaces:
 - a. Furred areas
 - b. Ceiling plenums
 - 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 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 5 Section "Structural Steel" for shop priming structural steel.
 - 2. Division 6 Section "Finish Carpentry" for shop priming interior architectural woodwork.
 - 3. Division 8 Section "Hollow Metal Doors and Frames" for shop priming doors and frames.

4. Divisions 15 and 16: Painting of mechanical and electrical work is specified in Divisions 15 and 16, respectively.

1.3 SUBMITTALS

- A. Product Data: For each paint system specified. Include block fillers and primers.
- B. 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 the manufacturer's catalog number and general classification.
- C. Samples for Initial Selection: Manufacturer's color charts showing the full range of colors available for each type of finish-coat material indicated.

1.5 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.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to the Project site in the 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° F. Maintain containers used in storage in a clean condition, free of foreign materials and residue. 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.

1.7 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° F.
- B. Apply solvent-thinned paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 45 and 95° F.
- C. Do not apply paint in rain, fog or mist; or when the relative humidity exceeds 85 percent; to at temperatures less than 5° F above the dew point or to damp or wet surfaces. 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.

1.8 EXTRA MATERIALS

- A. Furnish extra paint materials from the same production run as the materials applied in the quantities described below. Package paint materials in unopened, factory-sealed containers for storage and identify with labels describing contents. Deliver extra materials to the Owner. Furnish the Owner with an additional 5 percent, but not less than 1 gal. or 1 case, as appropriate, of each material and color applied.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Products: Subject to compliance with requirements, provide one of the products in the paint schedules.
- B. Manufacturers Names: The following manufactures are referred to in the paint schedules by use of shortened versions of their names, which are shown in parentheses:
 - 1. Devoe and Raynolds Co. (Devoe)
 - 2. The Glidden Company (Glidden)
 - 3. Benjamin Moore and Co. (Moore)
 - 4. Sherwin-Williams (SW)

2.2 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 to 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: Provide color selections made by the Architect.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas and conditions with the Applicator present, under which painting will be performed for compliance with paint applications requirements. Do not begin to apply paint until unsatisfactory conditions have been corrected and surfaces receiving paint are thoroughly dry. 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. Notify the Architect about anticipated problems using the material 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 the size or weight of the item, provide surface-applied protection before surface preparation and painting.
- B. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.
- C. 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.
- D. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.
- E. Provide barrier coats over incompatible primers or remove and reprime.
- F. Cementitious Materials: Prepare concrete, concrete masonry block, cement plaster and mineral-fiber-reinforced cement panel surfaces to be painted.
 - 1. Use abrasive blast-cleaning methods if recommended by paint manufacturer.
 - 2. 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. 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 then vacuum before painting.
- G. 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.
 - 1. 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.
 - 2. When transparent finish is required, backprime with spar varnish.
 - 3. Ferrous Metals: Clean nongalvanized 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 recommendations of the Steel Structures Painting Council (SSPC).
- H. Galvanized Surfaces: Clean galvanized surfaces with non-petroleum-based solvents so that the surface is free of oil and surface contaminants. Remove pretreatment from galvanized sheet metal fabricated from coil stock by mechanical methods.
- I. Materials Preparation: Carefully mix and prepare paint materials in accordance with manufacturer's directions.
- J. Tinting: Tint each undercoat a lighter shade to simplify identification of each coat where multiple coats of the 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 directions. 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, covers for finned tube radiation, grilles and similar components are in integrity and provide desired protection.
- B. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces.
- C. Paint interior surfaces of ducts with a flat, nonspecular black paint where visible through registers or grilles.
- D. Finish exterior doors on tops, bottoms and side edges the same as exterior faces.
- E. Sand lightly between each succeeding enamel.
- F. 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.
- G. The number of coats and the film thickness required are the same regardless of application method. Do not apply succeeding coats until the previous 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
- H. Omit primer on metal surfaces that have been shop primed and touchup painted.
- I. 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.
- J. 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.
- K. 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 applies.
 - 2. Rollers: Use rollers of carpet, velvet black 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 recommended by the manufacturer for the material and texture required.
- L. Minimum Coating Thickness: Apply paint materials no thinner than the manufacturer's recommended spreading rate.

- M. Mechanical and Electrical Work: Painting of mechanical and electrical work is limited to items exposed in equipment rooms and in occupied spaces.
- N. Electrical items to be painted include, but are not limited to, the following:
 - 1. Conduit and fittings
 - 2. Switchgear
 - 3. Panelboards
- O. Block Fillers: Apply block fillers to concrete masonry block at a rate to ensure complete coverage with pores filled.
- P. Prime Coats: Before application of finish coats, apply a prime coat of material, as recommended by the manufacturer, to material that is required to be painted or finished and 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.
- Q. 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.
- R. Transparent (Clear) Finishes: Use multiple coats to produce a glass-smooth surface film of even luster. Provide a finish free of laps, cloudiness, color irregularity, runs, brush marks, orange peel, nail holes, or other surface imperfections.
- S. Provide semi-gloss finish for final coats.
- T. Completed Work: Match approved samples for color, texture and coverage. Remove, refinish or repaint work not complying with requirements.

3.4 CLEANING

- A. Cleanup: At the end of each work day, remove empty cans, rags, rubbish, and other discarded paint materials from the site.
- B. Upon completion of painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping, using care not to scratch or damage adjacent finished surfaces.

3.5 PROTECTION

- A. Protect work of other trades, whether to be painted or not, against damage by painting. Correct damage by cleaning, repairing or replacing, and repainting, as acceptable to 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.

3.6 INTERIOR PAINT SCHEDULE

- A. Concrete: Provide the following paint systems over interior concrete surfaces:
 - 1. Semi-Gloss, Acrylic-Enamel Finish: 2 finish coats over primer.

- a. Primer: Alkali-resistant, acrylic-latex, interior primer applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.0 mils.
 - 1) Devoe: 50801 Wonder-Tones Interior Vinyl Latex Primer-Sealer
 - 2) Glidden: Primer not required over this substrate
 - 3) Moore: Regal First Coat Interior Latex Primer & Underbody #216.
 - b. First and Second Coats: Semi-gloss, acrylic-latex, interior enamel applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 2.6 mils.
 - 1) Devoe: 39XX Wonder-Tones Semi-Gloss Interior Latex Enamel.
 - 2) Glidden: 8200 Series Spred Ultra Latex Semi-Gloss Enamel.
 - 3) Moore: Moore's Regal AquaGlo Vinyl-Acrylic Latex Enamel #333
- B. Concrete Masonry Units: Provide the following paint systems over interior concrete masonry block units:
- 1. Semi-Gloss, Acrylic-Enamel Finish: 2 finish coats over a block filler.
 - a. Block Filler: High-Performance, latex-based, block filler applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 5.0 mils.
 - 1) Devoe: 52902 Bloxfil 200 Interior/Exterior Latex Block Filler
 - 2) Glidden: 5317 Ultra-Hide Block Filler, Latex Interior/Exterior
 - 3) Moore: Moorcraft Interior & Exterior Block Filler #173
 - b. First and Second Coats: Semi-gloss, acrylic-latex, interior enamel applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 2.6 mils.
 - 1) Devoe: 39XX Wonder-Tones Semi-Gloss Interior Latex Enamel.
 - 2) Glidden: 8200 Series Spred Ultra Latex Semi-Gloss Enamel.
 - 3) Moore: Moore's Regal AquaGlo Vinyl-Acrylic Latex Enamel #333
- C. Gypsum Board: Provide the following paint systems over interior gypsum board surfaces:
- 1. Semi-Gloss, Acrylic-Enamel 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 1.2 mils.
 - 1) Devoe: 50801 Wonder-Tones Interior Vinyl Latex Primer-Sealer

- 2) Glidden: 5111 Spred Ultra Latex Primer-Sealer
 - 3) Moore: Regal First Coat Interior Latex Primer & Underbody #216.
- b. First and Second Coats: Semi-gloss, acrylic-latex, interior enamel applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 2.6 mils.
- 1) Devoe: 39XX Wonder-Tones Semi-Gloss Interior Latex Enamel.
 - 2) Glidden: 8200 Series Spred Ultra Latex Semi-Gloss Enamel.
 - 3) Moore: Moore's Regal AquaGlo Vinyl-Acrylic Latex Enamel #333
- D. Woodwork and Hardboard: Provide the following paint systems over new, interior wood surfaces:
- 1. Semi-Gloss, Acrylic-Enamel Finish: 2 finish coats over a wood undercoater.
 - a. Undercoat: Alkyd- or acrylic-latex-based, interior wood undercoater, as recommended by manufacturer for this substrate, applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.2 mils.
 - 1) Devoe: 51701 Wonder-Tones All-Purpose Latex Primer-Sealer & Vapor Barrier
 - 2) Glidden: UH 400 Ultra-Hide Alkyd Interior Enamel Undercoater
 - 3) Moore: Moore's Alkyd Enamel Underbody #217
 - b. First and Second Coats: Semi-gloss, acrylic-latex, interior enamel applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 2.6 mils.
 - 1) Devoe: 39XX Wonder-Tones Semi-Gloss Interior Latex Enamel.
 - 2) Glidden: 8200 Series Spred Ultra Latex Semi-Gloss Enamel.
 - 3) Moore: Moore's Regal AquaGlo Vinyl-Acrylic Latex Enamel #333
- E. Stained Woodwork: Provide the following stained finishes over new, interior woodwork:
- 1. Waterborne, Satin-Varnish Finish: 2 finish coats of a waterborne, clear-satin varnish over a sealer coat and a waterborne, interior wood stain. Wipe wood filler before applying stain.
 - a. Filler Coat: Paste-wood filler applied at spreading rate recommended by the manufacturer.
 - 1) Devoe: None required
 - 2) Moore: Benwood Paste Wood Filler #238.
 - b. Stain Coat: Waterborne, interior wood stain applied at spreading rate recommended by manufacturer.
 - 1) Devoe: 41XX WoodWorks Waterborne Interior Stain
 - 2) Moore: Benwood Penetrating Stain #234

- c. Sealer Coat: Clear sanding sealer applied at spreading rate recommended by manufacturer.
 - 1) Devoe: 4200 Woodworks Waterborne Quick-Dry Clear Sealer
 - 2) Moore: None recommended
 - d. First and Second finish Coats: Waterborne, varnish finish applied at spreading rate recommended by manufacturer.
 - 1) Devoe: 4300 Woodworks Waterborne Crystal Clear Finish, Satin
 - 2) Moore: Stays Clear Polyurethane #423, Satin
- F. Ferrous Metal: Provide the following finish systems over ferrous metal:
- 1. Semi-gloss, Acrylic-Enamel Finish: One (1) finish coat over an enamel undercoater and a primer.
 - a. Primer: Quick-drying, rust-inhibitive, alkyd-based or epoxy-metal primer, as recommended by manufacturer for this substrate, applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.5 mils.
 - 1) Devoe: 13101 Mirrolac Rust Penetrating Metal Primer
 - 2) Glidden: 5207 Glid-Guard Tank & Structural Primer, White.
 - 3) Moore: IronClad Retardo Rust-Inhibitive Paint #163.
 - b. Undercoat: Alkyd, interior enamel undercoat or semi-gloss, acrylic-latex, interior enamel, as recommended by the manufacturer for this substrate, applied at spreading rate recommended by manufacturer to achieve a total dry film thickness of not less than 1.3 mils.
 - 1) Devoe: 39XX Wonder-Tones Semi-Gloss Interior Latex Enamel
 - 2) Glidden: 8200 Series Spred Ultra Latex Semi-Gloss Enamel.
 - 3) Moore: Moore's Alkyd Enamel Underbody #217
 - c. Finish Coat: Semi-gloss, acrylic-latex, interior enamel applied at spreading rate recommended by manufacturer to achieve a total dry film thickness of not less than 1.3 mils.
 - 1) Devoe: 39XX Wonder-Tones Semi-Gloss Interior Latex Enamel
 - 2) Glidden: 8200 Series Spred Ultra Latex Semi-Gloss Enamel.
 - 3) Moore: Moore's Regal AquaGlo Vinyl-Acrylic Latex Enamel #333
- G. Zinc-Coated Metal: Provide the following finish systems over zinc-coated metal:
- 1. Semi-gloss, Acrylic-Enamel Finish: 2 finish coats over a 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 1.2 mils.
 - 1) Devoe: 13201 Mirrolac Galvanized Metal Primer
 - 2) Glidden: 5207 Glid-Guard Tank & Structural Primer, White.
 - 3) Moore: IronClad Galvanized Metal Latex Primer #155.
 - b. First and Second Coats: Semi-gloss, acrylic-latex, interior enamel applied at spreading rate recommended by manufacturer to achieve a total dry film thickness of not less than 2.6 mils.
 - 1) Devoe: 39XX Wonder-Tones Semi-Gloss Interior Latex Enamel
 - 2) Glidden: 8200 Series Spred Ultra Latex Semi-Gloss Enamel.
 - 3) Moore: Moore's Regal AquaGlo Vinyl-Acrylic Latex Enamel #333
2. Full-gloss, Acrylic-Enamel Finish: 2 finish coats over a 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 1.2 mils.
 - 1) Devoe: 13201 Mirrolac Galvanized Metal Primer
 - 2) Glidden: 5207 Glid-Guard Tank & Structural Primer, White.
 - 3) Moore: IronClad Galvanized Metal Latex Primer #155.
 - 4) S-W: Galvite Paint B50W3
 - b. First and Second Coats: Full-gloss, acrylic-latex, interior enamel applied at spreading rate recommended by manufacturer to achieve a total dry film thickness of not less than 2.6 mils.
 - 1) Devoe: 84XX Mirrolac-WB Interior/Exterior Waterborne High Gloss Enamel
 - 2) Glidden: 6900 Series Lifemaster Pro Hi-Performance Acrylic Coating.
 - 3) Moore: Impervex Enamel #309
 - 4) S-W: ProMar 200 Interior Latex Gloss Enamel B21W201.

END OF SECTION