

SECTION 09900
PAINTING

PART 1 - GENERAL

1.01 PROVISIONS INCLUDED

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

1.02 SUMMARY

- A. Work Included: Furnish painting equipment, labor and materials; prepare surfaces, and apply prime and finish coats.
 - 1. New Construction: Paint all exposed surfaces, except as specifically excluded by this section or by the Room Finish Schedule.
 - 2. Existing To Remain: Paint exposed surfaces to extent indicated in the Room Finish Schedule.
- B. Related Work Specified in Other Sections:
 - 1. Room Finish Schedule: On the Drawings.
 - 2. Clear concrete floor sealers: Section 03310.
 - 3. Shop-priming structural steel, steel joists, and steel deck: Sections 05120 and 05210.
 - 4. Shop-finish on exterior steel railings; shop-priming metal fabrications: Section 05500 and 05510.
 - 5. Stencils for pipe and conduit identification: Division 15 and 16 sections.
 - 6. Temporary lighting and illumination levels during painting: Section 01500.

1.03 SUBMITTALS

- A. Product data: Manufacturer's technical information including label analysis and instructions for handling, storage, and application of each material proposed for use. List each material and cross-reference the specific coating, finish system, and application. Identify each material by the manufacturer's catalog number and general classification.
 - 1. Include certification by the manufacturer that products supplied comply with local regulations controlling use of volatile organic compounds (VOCs).
- B. Samples for Verification: Of each color and material to be applied, with texture to simulate actual conditions, on representative Samples of the actual substrate.
 - 1. Provide stepped Samples, defining each separate coat, including block fillers and primers. Use representative colors when preparing Samples for review. Resubmit until required sheen, color, and texture are achieved.

2. Provide a list of materials and applications for each coat of each sample. Attach to each sample a which clearly identifies each sample for location and application, and lists the materials applied for each coat.
 3. Submit Samples on the following substrates for the Architect's review of color and texture:
 - a. Concrete: Two 4-inch-square samples for each color and finish.
 - b. Ferrous Metal: Two 4-inch-square samples of flat metal and two 8-inch-long samples of solid metal for each color and finish.
 - c. Gypsum Board: Two 12 inch square samples of each color on hardboard.
- C. Qualification Data: For firms and persons specified in the "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

1.04 QUALITY ASSURANCE

- A. Applicator Qualifications: Engage an experienced applicator who has completed painting system applications similar in material and extent to those indicated for the Project that have resulted in a construction record of successful in-service performance.
- B. Source Limitations: For each type of paint system, obtain block fillers, primers, and undercoat materials from the same manufacturer as the finish coats. To the greatest extent possible, furnish all paint materials for the project from a single manufacturer.
- C. Field Samples: On actual surfaces at the Project, duplicate painted finishes of the prepared samples. On at least 300 sq. ft. of surface, where directed, provide full-coat finish samples until required sheen, color, and texture is obtained. Simulate finished lighting conditions for review of in-place work. Architect will approve sample panels or direct changes as desired. Painters shall be present and prepared to change sample panels to desired shade as directed.
 1. Final acceptance of colors will be from job-applied samples.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to the job 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.
- 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). Protect paint materials from freezing.

- C. Keep containers clean and 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.

1.06 SITE CONDITIONS

- A. Apply water-based paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 50°F (10°C) and 90°F (32°C).
- B. Apply solvent-thinned paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 45°F (7°C) and 95°F (35°C).
- C. Do not apply paint in snow, rain, fog, or mist; or when the relative humidity exceeds 85%; or at temperatures less than 5°F (3°C) above the dew point; or to damp or wet surfaces.
- D. Do not begin priming or painting unless adequate general illumination is provided as specified in Section 01500.

1.07 SEQUENCING, SCHEDULING AND COORDINATION WITH OTHER TRADES

- A. The trades installing surfaces and items which are to be painted shall provide smooth, sound, fully cured surfaces suitable for painting, except to the extent specified in this section. Painting work is not intended to include more than minor spackling, caulking of gaps at changes of materials, light hand sanding of millwork and carpentry items.
- B. Allow concrete to cure thoroughly before painting.
- C. Schedule installation of finish hardware, wall plates, and similar applied items which are not being painted after painting is completed, or, if necessary to maintain the schedule and acceptable to Architect, until at least the first top-coat has been applied.
- D. After prime coat has been applied to gypsum board, require drywall trade to return to the job to repair imperfections in their work that became visible after the prime coat was applied. Make flush with adjoining surface, and spot prime spackled areas.

1.08 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.
 - 1. Quantity: Furnish the Owner with an additional 5 percent, but not less than 1 gal. (3.785 L) or 1 case, as appropriate, of each material and color applied.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Latex and Alkyd Paints: Furnish complying products by one of the following manufacturers:
 - 1. Benjamin Moore and Co. (Moore).
 - 2. California Paints
 - 3. PPG Industries, Pittsburgh Paints (PPG)
 - 4. The Sherwin-Williams Company (S-W).
 - 5. ICI Paint Stores, Inc., Dulux Paints (ICI)
- B. Other types of coatings: As named in the following articles.

2.02 PAINT MATERIALS, GENERAL

- A. Material Compatibility: Provide block fillers, primers, finish coat materials, and related materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by the manufacturer based on testing and field experience.
- B. Material Quality: Provide the manufacturer's best-quality professional paint materials. The intent is to have paints furnished from the lines listed below, or equal lines from the other named manufacturers, unless the type of coating specified is not available in these lines.
 - 1. Benjamin Moore "SuperSpec."
 - 2. PPG "Speedhide."
 - 3. Sherwin Williams "ProMar 200" or "Series A-100."
- C. Performance: Provide paints which are washable and which will withstand scrubbing required to remove pencil marks, ink, ordinary soil, and similar stains, and which will show no discoloration, loss of gloss, staining, or other damage when subject to ordinary wear and maintenance procedures.
- D. Proprietary Names: Products named in Part 2 are intended to establish chemical composition, sheen and quality of product required for each application. Comparable products by other approved manufacturer's will be acceptable.
- E. Color and Sheen: Furnish paints in colors and sheens indicated in the Finish Schedule. Where colors are not indicated, Architect will specify colors by reference to one manufacture's color names, or by furnishing color chips to the Contractor.
 - 1. Paint colors, names, numbers or chips selected by the Architect may be from any manufacturer and will not be limited to colors in the line of the proposed paint materials manufacturer. Match desired shades in the brand of materials proposed and submit samples as specified above.
 - 2. To the extent color and sheen are not indicated, they will be selected by the Architect as the work progresses. In no instance will color and sheen selection be assigned to the Contractor.

2.03 EXTERIOR PAINT SYSTEMS

A. Galvanized Steel, Alkyd Paint:

1. Primer: Exterior/Interior latex primer for galvanized metal.
Moore: IronClad Galvanized Metal Latex Primer #155.
PPG: SpeedHide Galvanized Steel Primer, 6-209
S-W: Pro-Cryl Universal Water-Based Primer B66-310.
2. Top Coats: Weather-resistant alkyd enamel, high-gloss; one of the following:
Moore: Impervo High-Gloss Enamel #133.
PPG: SpeedHide Alkyd Gloss Enamel, 6-252.
S-W: Industrial Enamel Alkyd Gloss VOC complying B54Z.

2.04 INTERIOR PAINT SYSTEM

A. Concrete Walls, Latex Paint:

1. Primer: Latex-based primer.
Moore: Moore's SuperSpec Latex Enamel Undercoater and Primer Sealer #253
PPG: Speedhide Int/Ext Acrylic Latex Alkali Resistant Primer 6-603
S-W: PrepRite 200 Interior Latex Wall Primer B28W200.
2. Top Coats: Latex Paint, low-odor, low gloss:
Moore: Moore's SuperSpec Latex Eggshell Enamel #274
PPG: Speedhide Latex Eggshell Enamel 6-411 Series
S-W: ProMar 200 Interior Latex Eggshell Enamel B20W200.

B. Steel, Alkyd Paint, Semigloss:

1. Primers: Ferrous metal: Exterior/Interior alkyd, rust-inhibiting primers
Moore: IronClad Alkyd Low Lustre Enamel #163.
PPG: Pittsburgh Paints Industrial Red Rust Inhibitive Primer 7-858
S-W: Kem Kromik Universal Metal Primer B50Z.
2. Top Coats: Alkyd Enamel, low-odor, semigloss
Moore: SuperSpec Alkyd Semi-Gloss 271
PPG: Speedhide 6-1110
S-W: ProMar VOC Complying Interior Alkyd Semigloss B34WZ1101

C. Galvanized Steel, Alkyd Paint, Semi-Gloss:

1. Primer: Latex primer for galvanized metal.
Moore: IronClad Latex Low Lustre Enamel #363
PPG: Speedhide White Galvanized Steel Primer 6-209
S-W: DTM Acrylic Primer B66W1

2. Top Coats: Alkyd Enamel, low-odor, semigloss
Moore: SuperSpec Alkyd Semi-Gloss 271
PPG: Speedhide 6-1110
S-W: ProMar VOC Complying Interior Alkyd Semigloss
B34WZ1101

D. Gypsum Board, Latex Paint, Low Sheen:

1. Primer: Vinyl acrylic; product consistent with top coats specified below:
Moore: SuperSpec Latex Enamel Undercoater and Primer 253
PPG: Speedhide 6-2 Latex Primer-Sealer
S-W: PrepRite 200 Latex Primer
2. Top Coats: Latex-Based Paint, Eggshell sheen
Moore: SuperSpec Latex Eggshell Enamel 274
PPG: Speedhide Eggshell Latex Enamel 6-411
S-W: Promar 200 Interior Latex Eg-Shel B20W200 Series

E. Wood Backer Boards, Latex Paint, Flat

1. Primer: Latex or VOC Compliant Alkyd Primer
Moore: SuperSpec 243
PPG: Speedhide 6-844
S-W: PrepRite Wall and Wood Primer, Low VOC B49WZ2
2. Top Coats: Latex- or Acrylic-Based Paint, Eggshell sheen or flat:
Moore: SuperSpec 275
PPG: Speedhide 6-411
S-W: Promar 200 B30W200 Series.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates and conditions under which painting will be performed for compliance with paint application requirements. Surfaces receiving paint must be thoroughly dry before paint is applied.
 1. Gypsum Board: If sealant work specified in Section 07920 required to prepare gypsum board for painting has not been completed, complete it now.
 2. Do not begin to apply paint until unsatisfactory conditions have been corrected. 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 of anticipated problems in using the materials specified over substrates primed by others.

3.02 PREPARATION

- A. Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted, or provide surface-applied protection prior to surface preparation and painting. Remove these items, if necessary, to completely paint the items and adjacent surfaces. Following completion of painting operations in each space or area, have items reinstalled by workers skilled in the trades involved.
- B. Sealing of cracks and gaps at perimeter of drywall, around hollow metal frames and at similar locations to seal out dust and provide a smooth surface for finish painting is specified in Section 07920.
- C. Cleaning: Before applying paint, clean substrates to remove oil and grease and other substances that could impair the bond of the various coatings. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.
- D. Surface Preparation, General: Clean and prepare surfaces to be painted according to the manufacturer's instructions for each particular substrate condition and as specified. Provide barrier coats over incompatible primers or remove and reprime. Notify Architect in writing about anticipated problems using the specified finish-coat material with substrates primed by others.
- E. Concrete: 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.
 1. Use abrasive blast-cleaning methods if recommended by the 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 printed directions.
- F. Wood: Remove 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 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. Prime wood to be painted immediately upon delivery. Prime edges, ends, faces, undersides, and backsides of wood.
- G. Ferrous Metals, Unprimed: Remove oil, grease, dirt, loose mill scale, and other foreign substances. Use mechanical cleaning methods and pre-treatment that comply with recommendations of the primer manufacturer for type of exposure and condition of substrate,

and with Steel Structures Painting Council (SSPC). As a minimum, prepare unprimed surfaces according to requirements of SSPC-SP 3, Power-Tool Cleaning.

- H. Ferrous Metals, Shop Primed: Remove oil, grease, dirt, and other foreign substances. Use solvent or mechanical cleaning methods that comply with primer manufacturer's recommendations.
 - 1. Touch-up of bare areas and shop-applied prime coats that have been damaged during installation is the responsibility of the fabricator. Wire-brush, clean with solvents recommended by the paint manufacturer, and touch up with the same primer as the shop coat.
- I. Galvanized Surfaces: Clean galvanized surfaces with nonpetroleum-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.
 - 1. Touch-up of damaged galvanizing is responsibility of the fabricator.
- J. Previously Painted Surfaces:
 - 1. Remove loose paint, rust and corrosion;
 - 2. Spackle, fill and sand, as appropriate, to make surface smooth and even for application of new paint.
 - 3. Touch-up bare surfaces with primer.
 - 4. Sand lightly if necessary to clean the surface or promote adhesion;
 - 5. Test specified paint system on the surface to verify compatibility and adhesion. Apply barrier coat if old coating is not compatible with scheduled top-coat material, or remove existing finish entirely and reprime as required.

3.03 MIXING AND TINTING

- A. Mix and prepare paint materials according to manufacturer's directions.
 - 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. Remove film and, if necessary, strain material before using.
 - 3. Use thinners approved by the paint manufacturer; use only within recommended limits.
- B. Tinting: Tint each undercoat a lighter shade to facilitate identification of each coat where multiple coats 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.

3.04 APPLICATION

- A. Apply paints according to paint manufacturer's printed instructions, including recommendations for application rate for best performance, drying time between coats, and compatibility of different coating materials. Comply with these specifications where these are more stringent than manufacturer's instructions.
- B. Match approved samples for color, texture, and coverage. Remove, refinish, or recoat work not complying with specified requirements.
- C. Apply paint by brush or roller, unless the Painting Schedule in these specifications of manufacturer's directions specifically require spray application. Select brush or roller material best suited for the type of paint being applied.
- D. Apply the number of coats and paint film thickness specified for the paint system; if no thickness is specified, comply with paint manufacturer's recommendations for optimum coverage. Allow each coat to dry before applying the succeeding coat. Sand between coats with fine sandpaper or rub surfaces with pumice stone where required to produce an even, smooth surface.
- E. Apply additional coats when undercoats or substrate color variations show through the final coat of paint, until the paint film is of uniform finish, color and appearance.
- F. Paint heating equipment and pipes only when cold. Do not turn heat on until paint has dried.
- G. Prime Coats: Before application of finish coats, apply a prime coat or sealer (as scheduled) to material which is required to be field painted or field finished with transparent finish.
 - 1. Touch up or recoat with prime coat or sealer where there is evidence of suction spots or unsealed areas in first coat, to assure a finish coat with no burn-through or other defects due to insufficient sealing.
- H. Pigmented (Opaque) Finishes: Completely cover to provide an opaque, smooth surface of uniform finish, color, appearance, and coverage.

3.05 CLEANING

- A. Cleanup: At the end of each work day, remove empty cans, rags, rubbish, and other discarded paint materials from the site.
- B. 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.

3.06 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 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.
- C. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.07 PAINTING SCHEDULE, GENERAL

- A. The following schedules identify the principal items and surfaces to be painted and the paint systems to be applied to them. This schedule is not exhaustive; paint all exposed and semi-exposed surfaces not specifically scheduled to receive another finish and not specifically excluded from painting. Paint unscheduled surfaces with the paint system for the most similar substrate listed, or confer with the Architect to decide upon the actual paint materials.
- B. The following types of work are included:
 - 1. Surface preparation, prime painting and finish painting of exposed items and surfaces, except those specifically excluded by this Article or by notes on the Drawings, and on concealed surfaces to the extent indicated.
 - 2. Paint surfaces behind movable equipment the same as similar exposed surfaces. Paint surfaces behind permanently-fixed equipment with prime coat only.
 - 3. Finish exterior doors on tops, bottoms, and side edges the same as the exterior faces.
 - 4. Paint piping and ducts (including color coding) and hangers where exposed to view in occupied areas, and in mechanical and electrical rooms if walls and/or ceilings are scheduled to be painted.
 - 5. Paint access panels and electric load center panel covers, except in mechanical rooms, to match the surrounding surfaces. Paint sides, top, and bottom of exposed panel tubs.
 - a. Exception: Electrical load center panels mounted on unpainted wall surfaces need not be painted.
 - 7. Paint items exposed in mechanical equipment rooms and in occupied spaces, including, but not limited to, those listed below; except that items need not be painted if they are mounted on wall or ceiling surfaces which are not scheduled to be painted.
 - a. Piping, pipe hangers, and supports.
 - b. Mechanical equipment supports.
 - c. Ductwork.
 - d. Conduit and fittings.
 - e. Mechanical equipment
 - f. Electrical equipment.
 - 8. Rooftop equipment supports.
 - 9. Rooftop mechanical equipment. Repaint over factory-applied finish coat in new color specified by the Architect.

- C. Finish coats (but not prime coat) may be omitted on wall and ceiling surfaces which are to be covered by a removeable or demountable decorative finish such as acoustical panels or casework which is fastened in place.
- D. Prime coats specified in this Section may not be omitted on items which are shop-primed; shop priming is considered a temporary protection but not a permanent finish. Apply a full coat of compatible primer under this section on items which are to be field painted.
- E. Dry Film Thickness: Unless thicker coating is specified, apply paint systems to achieve minimum 2.5 mils total dry film thickness for one prime coat and two topcoats.
- F. Labels: Do not paint over Underwriters Laboratories, Factory Mutual or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.

3.08 EXTERIOR PAINTING SCHEDULE

Surface	Paint System
Steel lintels and shelf angles:	Gloss alkyd enamel; 2 top coats over 1 coat of galvanized metal primer.
Steel Doors and Door Frames:	Gloss alkyd enamel; 2 top coats over 1 coat of galvanized metal primer.
Rooftop Equipment Supports:	Gloss alkyd enamel; 2 top coats over 1 coat of galvanized metal primer.
Rooftop Equipment:	Gloss alkyd enamel; 1 coat over shop-finish, to change color.

3.09 INTERIOR PAINT SCHEDULE

Surface	Paint System
Touch-up of existing painted surfaces disturbed by new construction:	Same paint system as on the existing surfaces.
Concrete walls and ceilings:	Latex paint; eggshell finish.
Exposed Structural Steel:	Interior alkyd enamel, semigloss; 2 coats over rust-inhibitive primer.
Exposed Steel (Ferrous) Deck:	Interior alkyd enamel, semigloss; 2 coats over rust-inhibitive primer.
Exposed Galvanized Steel Floor and Roof Deck:	Interior alkyd enamel, semigloss; 2 coats over galvanized steel primer.

Steel Stairs:	Interior alkyd enamel, semigloss; 2 coats over rust-inhibitive primer.
Steel Railings and Handrails:	Interior alkyd enamel, semigloss; 2 coats over rust-inhibitive primer.
Steel Doors and Frames:	Interior alkyd enamel, semigloss; 2 coats over rust-inhibitive primer. Apply by spray.
Gypsum Board Walls and Soffits:	Latex paint, low sheen; 2 top coats over 1 coat of primer.
Telephone and electrical backboards:	Latex-based paint, flat; 1 coat over 1 coat of primer
Piping and hangers:	Alkyd paint; 2 coats over primer.
Ductwork hangers:	Alkyd paint; 2 coats over primer.
Mechanical equipment:	Alkyd paint; 1 coat over shop-finished metal to change color. Equipment located in mechanical rooms does not have to be painted.
Electric load center panel covers:	Paint to match surrounding surfaces. Paint sides, top, and bottom of exposed panel tubs. Panels location in mechanical rooms do not have to be painted.

END OF SECTION 09900