SECTION 09900
PAINTS AND COATINGS

PART 1 GENERAL

1.1 SUMMARY

A. Section includes surface preparation and field application of paints, stains, varnishes, and other coatings.

B. Paint and stain all surfaces that are primed for painting. Do not paint any surfaces that are factory primed unless noted otherwise.

C. Related Sections:
1. Section 04810 - Unit Masonry Assemblies
2. Section 05500 - Metal Fabrications: Shop primed items.
3. Section 05510 - Metal Stairs and Ladders: Shop primed items.
4. Section 08111 - Standard Steel Doors and Frames
5. Section 08310 - Access Panels and Doors
6. Section 09260 - Gypsum Wallboard Assemblies
7. Section 09720 - Wall Covering: Primer and sealer under wall covering.
8. Section 15075 - Identification for Plumbing Piping and Equipment.
9. Section 15076 - Identification for HVAC Piping and Equipment.
10. Section 16075 - Identification for Electrical Systems.
11. Section 16076 - Identification for Communications Systems.

1.2 REFERENCES

A. ASTM International:
1. ASTM D16 - Standard Terminology Relating to Paint, Varnish, Lacquer, and Related Products.
2. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials.
3. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

B. National Fire Protection Association:
1. NFPA 255 - Standard Method of Test of Surface Burning Characteristics of Building Materials.

C. Painting and Decorating Contractors of America:
1. PDCA - Architectural Painting Specification Manual.

D. SSPC: The Society for Protective Coatings:
1. SSPC - Steel Structures Painting Manual.

E. Underwriters Laboratories Inc.:
1. UL 723 - Tests for Surface Burning Characteristics of Building Materials.

1.3 DEFINITIONS

A. Conform to ASTM D16 for interpretation of terms used in this section.

1.4 SUBMITTALS

A. Section 01330 - Submittal Procedures: Submittal procedures.

B. Product Data: Submit data on finishing products. Samples:
1. Submit color charts for selection by architect for review not less than four weeks before painting is scheduled to start.

C. Manufacturer's Installation Instructions: Submit special surface preparation procedures, substrate conditions requiring special attention.

1.5 CLOSEOUT SUBMITTALS

A. Section 01700 - Execution Requirements: Closeout procedures.

B. Operation and Maintenance Data: Submit data on cleaning, touch-up, and repair of painted and coated surfaces.

1.6 QUALITY ASSURANCE

A. Surface Burning Characteristics:
1. Fire Retardant Finishes: Maximum 25/450 flame spread/smoke developed index when tested in accordance with ASTM E84.

B. Perform Work in accordance with State of South Carolina standards.

C. Maintain one copy of each document on site.

1.7 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum ten years documented experience.

B. Applicator: Company specializing in performing work of this section with minimum ten years documented experience and approved by manufacturer.

1.8 MOCKUP/FIELD SAMPLES

A. Section 01400 - Quality Requirements: Mock-up and Field Sample requirements.

B. Construct field sample on actual walls as directed by architect, 6 feet long by 6 feet wide, illustrating coating color, texture, and finish. Repaint field sample until all colors are selected. Provide a field sample for each color selected by the architect. Provide finish lighting conditions where sample is to be painted. Ample time to review the samples shall be incorporated.

C. Locate where directed by Architect/Engineer.

D. Incorporate accepted mockup as part of Work.

1.9 PRE-INSTALLATION MEETINGS

A. Section 01300 - Administrative Requirements: Pre-installation meeting.

B. Convene minimum one week prior to commencing work of this section. Do not proceed with remaining work until Architect approves of the mark-up samples.

1.10 DELIVERY, STORAGE, AND HANDLING

A. Section 01600 - Product Requirements: Product storage and handling requirements.

B. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

C. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

D. Paint Materials: Store at minimum ambient temperature of 45 degrees F and maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.11 ENVIRONMENTAL REQUIREMENTS

A. Section 01600 - Product Requirements.

B. Do not apply materials when surface and ambient temperatures are outside temperature ranges required by paint product manufacturer.

C. Do not apply exterior coatings during rain or snow when relative humidity is outside humidity ranges, or moisture content of surfaces exceed those required by paint product manufacturer.

D. Minimum Application Temperatures for Latex Paints: 45 degrees F for interiors; 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.

E. Minimum Application Temperature for Varnish and Finishes: 65 degrees F for interior or exterior, unless required otherwise by manufacturer's instructions.

F. Provide lighting level of 80 ft candle measured mid-height at substrate surface.

1.12 SEQUENCING

A. Section 01100 - Summary: Work sequence.

B. Sequence application to the following:
1. Do not apply finish coats until paintable sealant is applied.
2. Back prime wood trim before installation of trim.

1.13 WARRANTY

A. Section 01700 - Execution Requirements: Product warranties and product bonds.

B. Furnish five year manufacturer warranty for paints and coatings.

1.14 EXTRA MATERIALS

A. Section 01700 - Execution Requirements: Spare parts and maintenance products.

B. Supply 1 gallon of each color, type, and surface texture; store where directed.

C. Label each container with color, type, texture, room locations, in addition to manufacturer's label.

PART 2 PRODUCTS

2.1 PAINTS AND COATINGS

A. Manufacturers: Paint, Transparent Finishes, Stain, Primer Sealers, Block Filler, Field Catalyzed Coatings.
1. Sherman Williams (basis for design)
2. Devoe Paint Co.
3. Duron Inc.
4. The Glidden Co.
5. PPG Architectural Finishes
6. Substitutions: Section 01600 - Product Requirements

2.2 COMPONENTS

A. Coatings: Ready mixed, except field catalyzed coatings. Prepare coatings:
1. To soft paste consistency, capable of being readily and uniformly dispersed to homogeneous coating.
2. For good flow and brushing properties.
3. Capable of drying or curing free of streaks or sags.
4. Exterior: GC-03
5. Clear Wood Finishes: SCAQMD Rule 113
6. Interior: Maximum Volatile Organic Compound Content in accordance with GS-11 with a maximum of 50 g/L for flat paints and coatings and 150 g/L for non-flat paints and coatings.

B. Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials not specifically indicated but required to achieve finishes specified; commercial quality.

C. Patching Materials: Latex filler.

D. Fastener Head Cover Materials: Latex filler.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Verify surfaces and substrate conditions are ready to receive Work as instructed by product manufacturer.

C. Examine surfaces scheduled to be finished prior to commencement of work. Report conditions capable of affecting proper application.

D. Test shop applied primer for compatibility with subsequent cover materials.

E. Measure moisture content of surfaces using electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
1. Plaster and Gypsum Wallboard: 12 percent.
2. Masonry, Concrete, and Concrete Unit Masonry: 12 percent.
3. Interior Wood: 15 percent, measured in accordance with ASTM D4442.
4. Exterior Wood: 15 percent, measured in accordance with ASTM D4442.
5. Concrete Floors: 8 percent.

3.2 PREPARATION

A. Surface Appurtenances: Remove electrical plates, hardware, light fixture trim, escutcheons, and fittings prior to preparing surfaces or finishing.

B. Surfaces: Correct defects and clean surfaces capable of affecting work of this section.

C. Marks: Seal with shellac those which may bleed through surface finishes.

D. Impervious Surfaces: Remove mildew by scrubbing with solution of tri-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

E. Aluminum Surfaces Scheduled for Paint Finish: Remove surface contamination by steam or high pressure water. Remove oxidation with acid etch and solvent washing. Apply etching primer immediately following cleaning.

F. Asphalt, Creosote, or Bituminous Surfaces Scheduled for Paint Finish: Remove foreign particles to permit adhesion of finishing materials. Apply compatible sealer or primer.

G. Insulated Coverings: Remove dirt, grease, and oil from canvas and cotton.

H. Concrete Floors: Remove contamination, acid etch, and rinse floors with clear water. Verify required acid-alkali balance is achieved. Allow to dry.

I. Copper Surfaces Scheduled for Paint Finish: Remove contamination by steam, high pressure water, or solvent washing. Apply vinyl etch primer immediately following cleaning.

J. Copper Surfaces Scheduled for Natural Oxidized Finish: Remove contamination by applying oxidizing solution of copper acetate and ammonium chloride in acetic acid. Rub on repeatedly for required effect. Once attained, rinse surfaces with clear water and allow to dry.

K. Gypsum Board Surfaces: Fill minor defects with filler compound. Spot prime defects after repair.

L. Galvanized Surfaces: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.

M. Concrete and Unit Masonry Surfaces Scheduled to Receive Paint Finish: Remove dirt, loose mortar, scale, salt or alkali powder, and other foreign matter. Remove oil and grease with solution of tri-sodium phosphate; rinse well and allow to dry. Remove stains caused by weathering of corroding metals with solution of sodium metasilicate after thoroughly wetting with water. Allow to dry.

N. Plaster Surfaces: Fill hairline cracks, small holes, and imperfections with latex patching plaster. Make smooth and flush with adjacent surfaces. Wash and neutralize high alkali surfaces.

O. Uncoated Steel and Iron Surfaces: Remove grease, mill scale, weld splatter, dirt, and rust. Where heavy coatings of scale are evident, remove by power tool wire brushing or sandblasting; clean by washing with solvent. Apply treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Spot prime paint after repairs.

P. Shop Primed Steel Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Prime metal items including shop primed items.

Q. Interior Wood Items Scheduled to Receive Paint Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats.

R. Interior Wood Items Scheduled to Receive Transparent Finish: Wipe off dust and grit prior to sealing, seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after sealer has dried; sand lightly between coats.

S. Exterior Wood Scheduled to Receive Paint Finish: Remove dust, grit, and foreign matter. Seal knots, pitch streaks, and sappy sections. Fill nail holes with tinted exterior paintable caulking compound after prime coat has been applied.

T. Exterior Wood Scheduled to Receive Transparent Finish: Remove dust, grit, and foreign matter; seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes with tinted exterior caulking compound after sealer has been applied.

U. Wood Doors Scheduled for Painting: Seal wood door top and bottom edge surfaces with clear sealer.

V. Metal Doors Scheduled for Painting: Prime metal door top and bottom edge surfaces.

3.3 EXISTING WORK

A. Extend existing paint and coatings installations using materials and methods compatible with existing installations and as specified.

3.4 APPLICATION

A. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

B. Apply each coat to uniform appearance. Apply each coat of paint slightly darker than preceding coat unless specified otherwise.

C. Sand wood and metal surfaces lightly between coats to achieve required finish.

D. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

E. Where clear finishes are required, tint fillers to match wood. Work fillers into grain before set. Wipe excess from surface.

F. Prime concealed surfaces of interior and exterior woodwork with primer paint.

G. Prime concealed surfaces of interior wood surfaces scheduled to receive stain or varnish finish with gloss varnish reduced 25 percent with thinner.

H. Finishing Mechanical And Electrical Equipment:
1. Refer to Division 15 and Division 16 for schedule of color coding and identification banding of equipment, duct work, piping, and conduit.
2. Paint shop primed equipment.
3. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.
4. Prime and paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, except where items are shop finished.
5. Paint interior surfaces of air ducts visible through grilles and louvers with one coat of flat black paint to visible surfaces. Paint dampers exposed behind louvers, grilles, to match face panels.
6. Paint exposed conduit and electrical equipment occurring in finished areas.
7. Paint both sides and edges of plywood backboards for electrical and telephone equipment before installing equipment.
8. Color code equipment, piping, conduit, and exposed duct work in accordance with requirements indicated. Color band and identify with flow arrows, names, and numbering.
9. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.5 FIELD QUALITY CONTROL

A. Section 01400 - Quality Requirements and 01700 - Execution Requirements: Field inspecting, testing, adjusting, and balancing.

3.6 CLEANING

A. Section 01700 - Execution Requirements: Final cleaning.

B. Collect waste material which may constitute fire hazard, place in closed metal containers, and remove daily from site.

3.7 SCHEDULE - SHOP PRIMED ITEMS FOR SITE FINISHING

A. Metal Fabrications (Section 05500): Exposed surfaces of lintels, elevator pit ladders.

B. Metal Stairs (Section 05510): Exposed surfaces of stringers exposed vertical risers.

3.8 SCHEDULE - EXTERIOR SURFACES

A. Pavement Markings: See Division Two

B. Steel - Unprimed:
1. One coat of Procryll primer.
2. Two coats of alkyd enamel, semi-gloss.

C. Steel - Shop Primed:
1. Touch-up with Procryll primer.
2. Two coats of alkyd enamel, semi-gloss.

D. Steel - Galvanized:
1. One coat All Surface latex Primer A41 Series.
2. Two coats of alkyd semi-gloss.

E. Steel – Existing Railings, post and ornamental work
1. One coat of Procryll primer.
2. Two coats of alkyd enamel, semi-gloss.

F. Fiber Cementitious Siding & Trim – Brush Applied Only – No spray application allowed
1. Unprimed: Prime with first coat 100% acrylic primer Loxon A24W300. Prime all cut edges in accordance with manufacturer's recommendations
2. Topcoat: Two coats of Exterior Super Paint A80 series flat.
a. Trim Color will differ from siding color

3.9 SCHEDULE - INTERIOR SURFACES

A. Steel - Unprimed:
1. Touch-up with Procryll primer.
2. Two coats of alkyd enamel, semi-gloss.

B. Steel - Primed:
1. Touch-up with Procryll primer.
2. Two coats of alkyd enamel, semi-gloss.
3. At Detention/Secure Areas : Two coats B70 water based catalyzed epoxy "semi-gloss"

C. Steel - Galvanized:
1. One coat All Surface latex Primer A41 Series.
2. Two coats of alkyd semi-gloss.

D. Gypsum Board Walls:
1. One coat of SW Preprite primer 200 B28200 Series.
2. Two coats of SW Cashmere Low Lustre D17 Series

E. Gypsum Board Ceilings:
1. One coat of SW Preprite primer 200 Series B28200.
2. Two coats of SW Promar 400 Series B30W400 Flat.

F. Interior wood trim
1. One coat of SW Preprite primer 200 B28200 Series.
2. Two coats of SW Cashmere Low Lustre D17 Series

3.10 SCHEDULE – COLORS

1. See Finish Schedule on the Drawings for rooms and spaces scheduled to receive paint and coatings.

2. A color schedule showing colors selected will be prepared after the Contract has been awarded. The Contractor is to allow for multiple selection of paint in multiple rooms. A maximum of five different wall colors is anticipated.

END OF SECTION 09900