SECTION 09900 - PAINTING

1.1 GENERAL

A. This Section includes surface preparation and field painting of exposed exterior and interior items and surfaces.

1. Surface preparation, priming, and finish coats specified in this Section are in addition to shop priming and surface treatment specified in other Sections.

B. Paint exposed surfaces, except where 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, concealed surfaces, finished metal surfaces, operating parts, and labels.

1. 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. Submittals: For each paint system specified, provide the following:

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.

E. Samples for Initial Selection: Manufacturer's color charts showing the full range of colors available for each type of finish-coat material indicated. After color selection, the Architect will furnish color chips for surfaces to be coated.

F. 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. Label each sample for location and application.
3. Submit Samples on the following substrates for the Architect's review of color and texture only:

a. Concrete: Provide two 4-inch- square samples for each color and finish.
b. Concrete Masonry: Provide two 4-by-8-inch samples of masonry for each finish and color.
c. Stained or Natural Wood: Provide two 4-by-8-inch samples of natural- or stained-wood finish on actual wood surfaces.

G. Source Limitations: Obtain block fillers, primers, and undercoat materials for each coating system from the same manufacturer as the finish coats.

H. Deliver materials to the Project Site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label.

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

J. Project Conditions: 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 above the dew point; or to damp or wet surfaces.

1.2 PRODUCTS

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.

C. Heavy Duty Block Filler: Standard of quality is “B42 W46” by Sherwin Williams and 5317 Acrylic Blockfiller by Glidden.

D. Interior Primer (Unless indicated otherwise, shall be one of the following):

1. Interior Vinyl Latex Primer (General Priming): Primer shall be an interior vinyl latex primer for new or existing surfaces as recommended by the manufacturer. Standard of quality is Promar 200 latex wall primer by Sherwin Williams and 5019 Latex Primer/Sealer by Glidden.
2. Interior Alkyd Enamel Primer: Primer shall be a low odor pigmented interior alkyd primer for use under latex enamels. Standard of quality if Promar 200 Alkyd Enamel Undercoat by Sherwin Williams and UH 400 Alkyd Enamel Undercoater by Glidden.
3. Latex Metal Primer: Primer shall be an acrylic emulsion primer utilizing a non-toxic corrosion-inhibitor, for use on metal surfaces. Standard of quality is “DTM Acrylic Primer” by Sherwin Williams and 6970 Lifemaster Pro Acrylic Primer by Glidden.
4. Epoxy Filler/Sealer: Primer shall be a pigmented high-solids/high build epoxy polyamide filler/sealer. Standard of quality is Kem Cati-Coat by Sherwin Williams and 5512 Epoxide Basecoat by Glidden.

E. Interior Paints:

1. Paint shall be vinyl acrylic semi-gloss enamel for use on interior surfaces as recommended by the manufacturer. Standard of quality is Promar 200 Interior Latex Semi-Gloss Enamel by Sherwin Williams and UH 6300 Ultra Hide Latex Semi-Gloss Enamel by Glidden.

F. Interior Stain:

1. Interior Oil Stain: Stain shall be a penetrating type oil stain made with permanent, non-bleeding pigments. Standard of quality is oil stain by Sherwin Williams and 1600 Woodmaster Alkyd Stain by Glidden.

G. Finish Coats:

1. Varnish shall be a clear, liquid plastic coating for interior wood surfaces. Standard of quality is "Polyurethane Varnish" by Sherwin Williams and 81 or 82 Woodmaster by Glidden.

H. Colors: Match colors indicated by reference to manufacturer's color designations.

1.3 EXECUTION

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

B. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates.

C. Preparation: 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. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.

D. 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. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.

E. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturers written instructions for each particular substrate condition.

1. Cementitious Materials: 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. Use abrasive blast-cleaning methods if recommended by paint manufacturer.

a. 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. Do not paint surfaces where moisture content exceeds that permitted in manufacturer's written instructions.

2. 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. Seal tops, bottoms, and cutouts of unprimed wood doors with a heavy coat of varnish or sealer immediately on delivery.

3. 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.

4. 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.

F. Materials Preparation: Mix and prepare paint materials according to manufacturer's written instructions.

1. 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.
2. Use only thinners approved by paint manufacturer and only within recommended limits.

G. Application: 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 items 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 back sides of access panels and removable or hinged covers to match exposed surfaces.
7. Finish exterior doors on tops, bottoms, and side edges the same as exterior faces.
8. Sand lightly between each succeeding enamel or varnish coat.

H. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.

1. The number of coats and 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. 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.
3. 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.

I. Application Procedures: Apply paints and coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.

J. Minimum Coating Thickness: Apply paint materials no thinner than manufacturers recommended spreading rate. Provide the total dry film thickness of the entire system as recommended by the manufacturer.

K. Block Fillers: Apply block fillers to concrete masonry block at a rate to ensure complete coverage with pores filled.

L. 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.

M. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with requirements.

N. Field Quality Control: The Owner reserves the right to engage the services of an independent testing agency to sample the paint material being used. Samples of material delivered to the Project will be taken, identified, sealed, and certified in the presence of the Contractor.

1. The testing agency will perform appropriate tests as required by the Owner.
2. If tests show material being used does not comply with specified requirements, the Contractor shall remove noncomplying paint from the site, pay for testing, and repaint surfaces previously coated with the rejected paint. If necessary, the Contractor may be required to remove rejected paint from previously painted surfaces if, on repainting with specified paint, the 2 coatings are incompatible.

O. 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.

P. 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.

Q. 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.

R. Paint Schedules: Provide the following paint systems for the various substrates indicated:

1. The following schedule is based on Sherwin Williams and Glidden products (unless otherwise noted) as examples. Equivalent systems by other manufacturers listed in Part 2 Products will be accepted, but a similar system schedule must be submitted for review and approval by Architect/Engineer.
2. The numbers in parenthesis after number of coats indicate minimum total acceptable dry film thickness (DFT) in mils. Note that the DFT is for the total DFT for the indicated number of coats (i.e., gypsum wallboard - 2 coats at 2 mils DFT each - total of 4 mils DFT).

System	Base Material	Paint Type	No. Coats	Paint Name	Texture
Exterior					

Interior

I-1	Concrete & Masonry	Latex	1 (4)	Heavy Duty Block Filler	
		Latex	2 (4)	Enamel Paint	Semi-Gloss
I-2	Ferrous Metal and Miscellaneous Metals	Latex	1 (2)	Metal Primer (if not shop primed)	
		Latex	2(4)	Heavy duty paint for metal	Semi-Gloss
I-3	Wood (Painted)	Alkyd	1 (1.5)	Enamel Primer	
		Latex	2 (5)	Acrylic Enamel	Semi-Gloss
I-4	Wood (Stained)	Oil	1 (NA)	Oil Base Wood Stain	
			3 (3)	Polyurethane Varnish	Semi-Gloss
I-5	Gypsum Wallboard	Latex	1 (1.5)	Enamel Primer	Semi-Gloss
		Latex	2 (4)	Enamel Paint	Semi-Gloss
	Note: Allow for a third coat on green and yellow surfaces.				
I-9	Metal -General	Latex	1 (2)	Metal Primer (if not shop primed)	
		Latex	2 (2)	Heavy duty paint for metal	Semi-Gloss

S. Additional Painting Schedules Notes:

Surface Item	System	Remarks
Interior		
Concrete and CMU (General)	I-1	
Gypsum Wallboard	I-5	
Wood Window & Misc. (Painted)	I-3	
Ferrous Metal Items	I-2	
Millwork	I-3	
Metal Doors & Frames	I-9	

1. Minimum Dry Film Thickness (DFT): Apply paints, primers, varnishes, enamels, undercoats, and other coatings to a minimum dry film thickness as per manufacturers recommended DFT unless shown otherwise in Paint System Schedule. Coating thickness where specified, refers to the minimum dry film thickness.
2. Coatings for Surfaces Not Specified Otherwise: Coat surfaces which have not been specified, the same as surfaces having similar conditions of exposure.

END OF SECTION 09900