SECTION 09 91 23
INTERIOR PAINTING

PART 1 GENERAL

1.1 STIPULATIONS

A. The specifications sections "General Conditions to the Construction Contract", "Special Conditions" and "Division 01 - General Requirements" form a part of this Section by this reference thereto, and shall have the same force and effect as if printed herewith in full.

1.2 SECTION INCLUDES

A. Surface preparation.

B. Field application of paints.

C. Materials for backpriming woodwork.

D. Scope: Finish interior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated, including the following:

1. Both sides and edges of plywood backboards for electrical and telecom equipment before installing equipment.

2. Mechanical and Electrical:

   a. In finished areas, paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, and hangers, brackets, collars and supports, unless otherwise indicated.

   b. In finished areas, paint shop-primed items.

   c. Paint interior surfaces of air ducts and convector and baseboard heating cabinets that are visible through grilles and louvers with one coat of flat black paint to visible surfaces.

E. Do Not Paint or Finish the Following Items:

1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.

2. Items indicated to receive other finishes.

3. Items indicated to remain unfinished.

4. Fire rating labels, equipment serial number and capacity labels, bar code labels, performance rating, name, nomenclature plates, and operating parts of equipment.

5. Mechanical or electrical parts such as valve operators, linkages, sinkages, sensing devices, and motor shafts, unless otherwise indicated.

6. Stainless steel, anodized aluminum, bronze, terne coated stainless steel, chromium plate, copper, and lead items, unless otherwise indicated.

7. Ceramic and other tiles.

8. Glass.

9. Acoustical materials, unless specifically indicated.

10. Concealed pipes, ducts, and conduits.

11. Surfaces in concealed areas and inaccessible areas such as furred spaces, foundation spaces, utility tunnels, pipe spaces, and duct shafts

F. Do not include painting that is specified under another Section.

1.3 RELATED REQUIREMENTS

A. Section 05 50 00 - Metal Fabrications: Shop-primed items.

B. Section 09 91 13 - Exterior Painting.

C. Section 09 93 00 - Staining and Transparent Finishing: Wood substrates.

1.4 DEFINITIONS

A. Comply with ASTM D16 for interpretation of terms used in this section.

1.5 REFERENCE STANDARDS

A. ASTM D16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications 2019.

B. ASTM D4258 - Standard Practice for Surface Cleaning Concrete for Coating 2005 (Reapproved 2017).

C. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Based Materials 2020.

D. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual Current Edition.

E. SSPC-SP 1 - Solvent Cleaning 2015, with Editorial Revision (2016).

F. SSPC-SP 2 - Hand Tool Cleaning 2018.

G. SSPC-SP 13 - Surface Preparation of Concrete 2018.

1.6 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide complete list of products to be used, with the following information for each:

1. Manufacturer's name, product name and/or catalog number, and general product category (e.g., "alkyd enamel").

2. Cross-reference to specified paint system(s) product is to be used in; include description of each system.

3. Manufacturer's installation instructions.

C. Certification: By manufacturer that paints and finishes comply with VOC limits specified.

D. Manufacturer's Instructions: Indicate special surface preparation procedures and substrate conditions requiring special attention.

E. Maintenance Data: Submit coating maintenance manual including finish schedule showing where each product/color/finish was used, product technical data sheets, material safety data sheets (MSDS), care and cleaning instructions, touch-up procedures, repair of painted and finished surfaces, and color samples of each color and finish used.

F. Extra Stock: Upon completion of the work of this Section, deliver to the Client Agency extra stock of paint finishes as follows:

Type of Paint:	**Quantity of Paint:**
Wall and ceiling paint:	5 gallon each color
Interior steel door and trim paint:	1 gallon each color
Interior stain:	1 quart each color
Any miscellaneous paint not listed above:	1 quart each color

1. Packaging: Extra stock shall be delivered in tightly sealed containers labeled with the manufacturers name, manufacturers stock number, paint type and gloss, application and thinning instructions, and locations used.

1.7 QUALITY ASSURANCE

A. Applicator Qualifications: Company specializing in performing the type of work specified with minimum three years experience.

B. In acceptance or rejection of the work of this Section, the Architect will make no allowance for lack of skill on the part of workmen.

1.8 DELIVERY, STORAGE, AND HANDLING

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

B. 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.

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

D. In the event of damage, immediately make all replacements necessary to the approval of the Architect and at no additional cost to the Client Agency.

1.9 FIELD CONDITIONS

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

B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

C. Do not apply materials in snow, rain or fog; when relative humidity exceeds 85 percent; at temperatures less than 5 degrees F above the dew point; or to damp or wet surfaces, unless otherwise permitted by the manufacturer's printed instructions, as approved by the Architect. Applications may be continued during inclement weather within the temperature limits specified by the paint manufacturer during application and drying periods.

D. Do not apply solvent-thinned paints when the temperature of surfaces to be painted and the surrounding air temperatures are below 45 degrees F, unless otherwise permitted by the manufacturer's printed instruction.

E. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Provide paints and finishes from the same manufacturer to the greatest extent possible.

1. If a single manufacturer cannot provide specified products; minor exceptions will be permitted provided approval by Architect is obtained using the specified procedures for substitutions.

B. Paints:

1. Behr Process Corporation: www.behr.com/#sle.

2. PPG Paints: www.ppgpaints.com/#sle.

3. **Basis of Design:** Sherwin-Williams Company: www.sherwin-williams.com/#sle.

C. Primer Sealers: Same manufacturer as top coats.

D. Substitutions: See Section 01 25 00 - Substitution Procedures.

2.2 PAINTS AND FINISHES - GENERAL

A. Paints and Finishes: Ready-mixed, unless intended to be a field-catalyzed paint.

1. A semi-gloss, egg shell or equivalent high quality washable latex paint must be specified for all kitchens, bathrooms, restrooms, stairs, corridors and vestibules. Semi-gloss or high-gloss enamel must be specified for laundry, maintenance, storage and utility rooms.

2. Provide paints of durable and washable quality. Do not use paint materials that will not withstand normal washing as required to remove pencil marks, ink, ordinary soil, and similar materials without showing discoloration, loss of gloss, staining, or other damage.

3. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.

4. Provide 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.

a. Review other Sections of these Specifications as required to determine the various substrates to be finished.

b. Provide barrier coats over non-compatible primers, or remove the primer and reprime as required.

c. Upon request, furnish information on the characteristics of the specific finish materials to ensure that compatible prime coats are used.

d. Notify the Architect in writing of anticipated problems in using the specified coating systems over prime coating supplied under other Sections.

e. Insofar as practicable, use undercoat, finish coat, and thinner material as parts of a unified system of paint finish.

5. Supply each paint material in quantity required to complete entire project's work from a single production run.

6. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.

a. Use only the thinners recommended by the paint manufacturer, and use only to the recommended limits.

B. Sheens: Provide the sheens specified; where sheen is not specified, sheen will be selected later by Architect from the manufacturer's full line. The Architect will be the sole judge of acceptability of the various sheens obtained from materials proposed to be used by the Contractor.

C. Colors: To be selected from manufacturer's full range of available colors.

1. Selection to be made by Architect after award of contract.

2. Allow for up to three stain colors for use throughout the building, at no additional cost.

3. Allow for up to three colors per room, at no additional cost.

4. Extend colors to surface edges; colors may change at any edge as directed by Architect.

5. In finished areas, finish pipes, ducts, conduit, and equipment the same color as the wall/ceiling under which they are mounted.

6. In utility areas, finish equipment, piping, conduit, and exposed duct work in colors according to the color coding scheme indicated.

2.3 PAINT SYSTEMS - INTERIOR

A. Paint I-OP - Interior Surfaces to be Painted, Unless Otherwise Indicated: Including gypsum board, poured concrete, concrete masonry units, brick, wood, plaster, and plastic.

1. Two top coats and one coat primer.

2. Top Coat(s): High Performance Architectural Interior Latex.

a. Use for areas not frequented by residents, that are subject to heavy abrasion, moisture, or frequent cleanings, including but not limited to: janitor closets, storage closets/rooms, mechanical closets/rooms, maintenance rooms, IT room, and Electrical room.

b. Products:

1) Sherwin-Williams Pro Industrial Pre-Catalyzed Waterbased Epoxy, Eg-Shel, K45-150 Series.

(a) Primer for Gypsum Board Substrates: Sherwin-Williams ProMar 200 Zero VOC Latex Primer, B28-2600 Series (use SW Color Prime if required).

(b) Primer for Plastic Substrates: Sherwin-Williams Extreme Bond Primer, B51-150 Series.

2) Sherwin-Williams Pro Industrial Waterbased Catalyzed Epoxy, Eg-Shel, B73-360 Series.

(a) Primer for Poured Concrete Substrates: Sherwin-Williams Loxon Concrete & Masonry Primer, LX02-50 Series.

(b) Primer for CMU Substrates: Sherwin-Williams Heavy Duty Block Filler, B42-46 Series.

3) Substitutions: See Section 01 25 00 - Substitution Procedures.

3. Top Coat(s): Interior Latex.

a. **This is the primary interior paint to be used on the project, unless indicated otherwise.**

b. Products:

1) Sherwin-Williams ProMar 200 Zero VOC Interior Latex, Eg-Shel, B20-2600 Series.

(a) Primer for Gypsum Board substrates: Sherwin-Williams ProMar 200 Zero VOC Latex Primer, B28-2600 Series (use SW Color Prime if required).

(b) Primer for Poured Concrete Substrates: Sherwin-Williams Loxon Concrete & Masonry Primer, LX02-50.

(c) Primer for CMU Substrates: PrepRite Block Filler, B25-25 Series.

2) Substitutions: See Section 01 25 00 - Substitution Procedures.

B. Paint I-OP-MD-DT - Medium Duty Door/Trim: For surfaces subject to frequent contact by occupants, including metals and wood:

1. Medium duty applications include doors, door frames, railings, handrails, guardrails, and wood trim. Also includes metal sprinkler lines.

2. Two top coats and one coat primer.

3. Top Coat(s): Interior Light Industrial Coating, Water Based.

    a. Products:

        1) Sherwin-Williams Pro Industrial Acrylic Coating, Semi-Gloss, B66-650 Series.

            (a) Primer for steel doors and frames, and metal ladders: Sherwin Williams Pro Industrial Pro-Cryl Universal Metal Primer, B66-310 Series (if touchup of factory prime coat is required).

                (1) Ensure compatibility of primer with door manufacturer's warranty.

            (b) Primer for steel attic access panels: Factory primed.

            (c) Primer for gas lines and sprinkler lines: Sherwin Williams KEM BOND HS Universal Alkyd Metal Primer, B50Z Series.

            (d) Primer for wood: Sherwin-Williams ProBlock Latex Primer/Sealer, B51-20 Series.

        2) Substitutions: See Section 01 25 00 - Substitution Procedures.

C. Paint I-OP-MD-WC - Medium Duty Vertical and Overhead: Including galvanized steel and non-galvanized steel.

    1. Top coats and primer as indicated under Top Coat below.

    2. Top Coat(s): High Performance Acrylic.

        a. For use on ferrous metals (carbon steel, stainless steel, cast iron and wrought iron) such as steel angles, plates, channels, beams, etc.

        b. Products:

            1) Sherwin-Williams SHER-CRYL HPA High Performance Acrylic Coating, Semi-Gloss, B66-350 Series.

                (a) 2 top coats on non-galvanized, 1 top coat on galvanized.

                (b) Primer:

                    (1) Non-galvanized: 1 coat Kem Bond HS Universal Primer, B50Z Series.

                    (2) Galvanized: No primer.

D. Industrial Exposures: Ideal for fabrication shop applications for protection of sharp edges, corners, and welds.

    1. Two top coats and no coat primer.

    2. Top Coat(s):

a. For use on metal guard rail system, handrails, and metal pan stairs.

b. Products:

1) Sherwin-Williams Macropoxy 646 Fast Cure Epoxy.

(a) B58-600 Series.

E. Previously Painted Interior Items:

1. Two top coats and one coat primer.

2. Top Coat(s): As appropriate for substrate.

3. Primer: Sherwin-Williams Extreme Bond Primer, B51-150 Series.

2.4 ACCESSORY MATERIALS

A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.

B. Patching Material for Drywall or Plaster: Latex filler.

C. Fastener Head Cover Material: Latex filler.

D. Patching Material for Metals: Two-part polyester filler (Bondo).

E. Nail Hole Filler: Wood putty, colored to match wood or stain.

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin application of paints and finishes until substrates have been adequately prepared.

B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

D. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

E. Do not proceed in areas of discrepancy until all such discrepancies have been fully resolved.

F. Test shop-applied primer for compatibility with subsequent cover materials.

G. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces is below the following maximums:

1. Gypsum Wallboard: 12 percent.

2. Plaster and Stucco: 12 percent.

3. Masonry, Concrete, and Concrete Masonry Units: 12 percent.

4. Interior Wood: 15 percent, measured in accordance with ASTM D4442.

3.2 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to application.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Remove or repair existing paints or finishes that exhibit surface defects.

D. Dull glossy surfaces and impart surface profile by scuff sanding or mechanical abrading.

E. Remove surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing. Mask items that are not removable.

F. Seal surfaces that might cause bleed through or staining of topcoat.

G. Remove oil and grease with clean cloths and cleaning solvents of low toxicity and a flash point in excess of 38 degrees C (100 degrees F), prior to start of mechanical cleaning.

H. Concrete:

1. Remove release agents, curing compounds, efflorescence, and chalk. Do not coat surfaces if moisture content or alkalinity of surfaces to be coated exceeds that permitted in manufacturer's written instructions.

2. Clean concrete according to ASTM D4258. Allow to dry.

3. Prepare surface as recommended by top coat manufacturer and according to SSPC-SP 13.

I. Masonry:

1. Remove efflorescence and chalk. Remove dirt and excess mortar. Do not coat surfaces if moisture content or alkalinity of surfaces or if alkalinity of mortar joints exceed that permitted in manufacturer's written instructions. Allow to dry.

2. Prepare surface as recommended by top coat manufacturer.

J. Previously Painted Concrete and Unit Masonry Surfaces: Remove all surface contamination (peeling paint, heavy chalk, efflorescence, laitance, concrete dust, etc.) by washing with an appropriate cleaner, rinse thoroughly, and allow to dry. Existing peeled or checked paint is to be scraped and sanded to a sound surface. Glossy or smooth surfaces shall be scuff sanded or mechanically abraded to impart a surface profile.

K. New Gypsum Board: Fill minor defects with filler compound. Wipe clean. Spot prime defects after repair.

1. Allow a minimum of 48 hours for drying of drywall joint compound, prior to application of primer coat of paint.

L. Existing Gypsum Board: Fill hairline cracks, small holes, and imperfections with latex patching plaster. Make smooth and flush with adjacent surfaces. Wipe clean.

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

N. Galvanized Surfaces:

1. Remove surface contamination and oils and wash with solvent according to SSPC-SP 1.

2. Prepare surface according to SSPC-SP 2.

O. Wood Surfaces to Receive Opaque 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. Back prime concealed surfaces before installation.

P. Unless specifically approved by the Architect, do not proceed with painting of wood surfaces until the moisture content of the wood is 12% or less as measured by a moisture-meter.

Q. Metal Doors to be Painted: Prime metal door top and bottom edge surfaces.

R. Paint shall not be applied to any surfaces found to be unsatisfactory. Application of paint shall constitute approval of surface conditions by the Painting Contractor.

3.3 MATERIALS PREPARATION

A. Mix and prepare painting materials in strict accordance with the manufacturer's recommendations.

B. Store materials not in actual use in tightly covered containers.

C. Maintain containers used in storage, mixing, and application of paint in a clean condition, free from foreign materials and residue.

D. Stir all materials before application to produce a mixture of uniform density, and as required during the application of materials. Do not stir into the material any film that may form on the surface. Remove the film and, if necessary, strain the material before using.

3.4 APPLICATION

A. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.

B. Apply products in accordance with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual".

C. Use brushes, rollers, spray equipment, or any combination of equipment as is recommended for application of the particular paint by the manufacturer of the particular paint, and that gives results satisfactory to the Architect. Rate of application shall not exceed that recommended by paint manufacturer for the surface involved.

D. Keep brushes, rollers and spray equipment clean and free from contaminates and suitable for the finish required.

E. Finish coat shall be smooth, free from brush marks, streaks, runs, laps, and skipped or missed areas. If spray application is used, finish coat shall be rolled with a paint roller immediately after spraying, to achieve a "paint roller" texture.

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

1. Oil base and oleo-resinous solvent type paints shall be considered dry for recoating when the paint feels firm, does not deform or feel sticky under moderate pressure of the thumb, and the application of another coat of paint does not cause lifting or loss of adhesion of the undercoat.

G. Apply each coat to uniform appearance in thicknesses specified by manufacturer.

H. If the indicated number of coats is not adequate for proper coverage, additional coats will be required as directed by the Architect, at no additional cost to the Client Agency.

I. Sand wood and metal surfaces lightly between coats to achieve required finish. Remove all defects visible to the unaided eye from a distance of five feet.

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

K. On all removable panels and all hinged panels, paint the back sides to match the exposed sides.

L. Reinstall surface appurtenances, including electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing by using workmen skilled in the necessary trades.

M. Completed work shall match the approved samples of color, texture and coverage. Remove, refinish or repaint all work not in compliance with specified requirements.

3.5 CLEANING

A. Schedule the cleaning and painting so that dust and other contaminants from the cleaning process will not fall onto wet newly painted surfaces.

B. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.6 TOUCHING UP

A. For patch work, paint entire wall surface to nearest intersection or break, as indicated, or as approved by the Architect. Touch-up areas are not acceptable.

3.7 PROTECTION

A. Protect finishes until completion of project.

END OF SECTION