SECTION 09900

PAINTING

PART 1 GENERAL

1.1 SUMMARY

A. Scope
1. Provide all material, labor and equipment to produce painted and finished surfaces as shown and scheduled on the DRAWINGS and as specified herein, to provide properly finished surfaces throughout. This SECTION, in conjunction with the color/finish schedules on the DRAWINGS or in the SPECIFICATIONS or issued separately, establishes the scope of the painting work, the surfaces to be painted, and the paint systems to be used.
   a. Exterior items and surfaces that are exposed.
   b. Interior items and surfaces that are exposed.
   c. Surface preparation, priming, and finishes in addition to shop primers and treatment of surfaces specified elsewhere.
   d. Also included herein is the painting of all exposed mechanical and electrical work such as metal piping (including color coding), conduit, ductwork, supports, equipment and fixtures, except items which are factory finished.
   e. Also paint existing surfaces where scheduled.
   f. Also paint all relocated existing painted items.
2. Do not paint exposed surface where the paint, color or room finish schedules indicate that a surface is not to be painted or remain natural. If the paint, color or room finish schedule does not identify a surface or item to be painted, paint the surface or item the color and finish of adjacent surfaces and materials, even if the schedules do not indicate finish or color. Verify color and finish with the Owner's Representative.
3. All interior painting and coatings to meet limits established by the Green Seal Standard GS-11 and as required to meet the minimum requirements of LEED NC 2.2.

B. Related Work Specified Under Other Sections
1. Shop prime painting of steel surfaces - DIVISION 5.
2. Shop priming of steel doors and frames – Division 8.
3. Surface preparation of gypsum board assemblies – Division 9.
4. Resinous and special coatings – Division 9.
5. Substrate sealers for wall coverings – Division 9.
6. Painting of mechanical and electrical work – Division 15 and 16.
7. Prime painting of mechanical and electrical work and touch-up of factory-applied finishes which have been damaged on mechanical and electrical equipment - DIVISIONS 15 and 16.
8. Identification of mechanical lines - DIVISION 15.
9. Back painting and protective treating of wood - DIVISION 6.

10. Providing of temporary protective covers on fire protection sprinkler heads - DIVISION 15.
11. Traffic striping for bituminous paving, including paint materials - DIVISION 2.
12. Traffic striping for concrete paving – Division 3.

C. Do not paint the following:
   1. Do not paint the following finished metal surfaces:
      a. Anodized aluminum.
      b. Stainless steel.
      c. Chromium plate.
      d. Copper.
      e. Bronze and brass.
   2. Do not paint the following concealed surfaces in inaccessible areas:
      a. Foundation spaces.
      b. Furred areas.
      c. Ceiling plenums.
      d. Utility tunnels.
      e. Pipe spaces.
      f. Duct shafts.
   3. Do not paint the follow pre-finished or factory finished items:
      a. Architectural casework.
      b. Acoustical wall panels.
      c. Metal toilet partitions.
      d. Metal lockers.
      e. Finished mechanical and electrical equipment.
      f. Light fixtures.
   4. Do not paint moving and operating parts of equipment.
      a. Valve handles, knobs and controls.
      b. Damper operators and controls.
      c. Linkages.
      d. Sensor components.
      e. Shafts for fans and motors.
   5. Do not paint code inspection labels such as (UL) Underwriters of (FM) Factory Mutual labels.
   6. Do not paint identification and utility information labels on mechanical and electrical equipment.

D. Repaint work is required as part of the work specified in this Section. Paint existing painted or finished surfaces that are altered, marred or damaged the same as specified for new surfaces. Match color and sheen of existing surfaces unless indicated otherwise. Extend all such painting to a suitable boundary to avoid a patched effect. Suitable boundaries are changes in planes of surfaces such as corners, frames, moldings and recesses.

1.2 DEFINITIONS

A. Paint
   1. Factory-formulated emulsions, enamels, paints, stains, sealers, varnishes, epoxies and other coatings, whether used as prime, intermediate, or finish coats.

B. Terminology: ASTM D16.

C. Exposed Surfaces
   1. "Exposed surfaces" means all surfaces or areas visible when the permanent construction is completed, and when all built-in cabinets, fixtures, convector covers, grilles and similar items are in place. "Exposed surfaces" shall include all surfaces or areas in back of cabinets, furniture, equipment and other items that are not built-in or fixed in place, and also shall include all surfaces visible thru grilles, louvers and registers, and all roof-mounted ferrous metal items.

D. Gloss: Range per National Paint and Coatings Association (NPCA).
   1. Eggshell: Low sheen finish with a gloss range between 5 and 20 when measured at a 60 degree meter.
   2. Satin: Low sheen finish with a gloss range between 15 and 35 when measured at a 60 degree meter.
   3. Semi-gloss: Medium sheen finish with a gloss range between 30 and 65 when measured at a 60 degree meter.
   4. Full gloss: High sheen finish with a gloss range greater than 65 when measured at a 60 degree meter.

1.3 QUALITY ASSURANCE

A. The Work of this Section shall be carried out by an approved applicator having specialized in this Work as its primary business for at least 5 years, and having performed satisfactorily Work of this type, size and scope.

B. Provide undercoating fillers, primers and finish coating materials from one manufacturer.

C. Regulatory Requirements
   1. Paint materials and application techniques shall comply with local air quality requirements.

D. Sample Areas
   1. Paint sample areas not less than 30 square feet, in locations as directed by the OWNER'S REPRESENTATIVE, to establish standards of quality and workmanship to be expected of painting Work on the PROJECT. Sample painted areas will be inspected by the OWNER'S REPRESENTATIVE, and, if approved, will be used as a basis by which the acceptability of the completed painting on the PROJECT will be judged.

E. Adhesion tests shall be required before proceeding with painting.

F. Testing: Testing Laboratory Shall Have The Following Responsibilities
   1. CONTRACTOR shall hire testing laboratory to do testing.
   2. Analyze the existing painted surface to determine the type of paint (including primer) and number of existing paint layers that exist.
   3. Determine if contaminants or ill bonding paint layers are present.
   4. What type of contaminants are present and what proposed surface preparation is required.
   5. Perform a minimum of one adherence test in each bay, minimum of one per 1000 s.f., or as required due to the existing conditions of the area to be painted.
   6. Testing Laboratory shall recommend proper cleaning methods, along with the scraping and sanding routine, to properly make the surfaces to be painted acceptable to the new paint material.
   7. After the cleaning process, recommend primer paint system to touch up the existing surfaces.
   8. After surfaces are properly prepared and primed, recommend the type of paint system and material best suited for the existing conditions.
   9. The testing laboratory may do other testing to properly define the existing conditions and to analyze what the proper paint system should be.
   10. Where any contaminants, such as asbestos, lead, or other carcinogens, are found to be present, the laboratory shall notify the OWNER'S REPRESENTATIVE for proper disposal of the contaminant without delaying the construction process.

1.4 SUBMITTALS

A. Furnish submittals for items that are identified in this SECTION by a different typeface and a bracketed code (e.g., *Item [L]*). Refer to SECTION 01340 for definition of codes for types of submittals and the administrative requirements governing submittal procedure. Additional submittal requirements pertaining to this SECTION are specified herein under this Article.

B. *Paint Color Samples [S]*: Submit color samples, showing paint system manufacturer's standard color range and sheens for each paint system specified. Sample shall be not less than 12 square inches in size.

C. After receipt of color samples and before commencement of the WORK, the ARCHITECT-ENGINEER will furnish a color schedule, showing the location of the various colors. Refer to the article "COLORS", herein.

D. Paint Fire Hazard Classification: Submit certificates stating that materials meet fire hazard classification as specified.

1.5 DELIVERY, STORAGE AND HANDLING

A. Delivery
   1. Deliver specified products to site in unopened, sealed containers bearing manufacturer's name, brand name, type and color of paint, and instructions for application.

B. Storage
   1. Store products in the space designated for the storage and mixing of paint. Whenever it may be necessary to change the location of storage space, promptly move products to the newly designated space, without additional cost to the OWNER.
   2. Refer to the article "PROTECTION" in Part 3.
   3. Store paint materials in ventilated areas at a minimum temperature of 45 degF (7 degC). Keep containers tightly covered. Maintain containers and storage area in clean condition.
   4. Protect pain materials storage space from damage. Remove contaminated rags and waste from premises every day. Take all precautions to prevent fire, including spontaneous combustion.
   5. Unless a room or area in the building is designated by the Owner's Representative for storage of paint materials, provide a temporary outside storage shed for storage of paint materials.
   6. If the Owner's Representative designates temporary storage space in the building, store materials so that they do not interfere with the Owner's operation or the work of others. Move materials when directed to do so by the Owner's Representative at no cost to the Owner. Protect existing surfaces from damage or defacement. On completion of painting operations, leave temporary storage spaces in building clean.

1.6 PROJECT CONDITIONS

A. Environmental Requirements
   1. Do not apply exterior paint in damp or rainy weather, nor until surface has dried from the effects of such weather.
   2. Do not apply exterior or interior paint when the ambient temperature is less than 50 degF.
   3. Do not apply paint when the relative humidity is greater than 85% or when temperatures are less than 5 degF (3 degC) above the dew point.
      a. Interior painting is allowed in damp and rainy weather when the interior areas are enclosed and heated and ventilated in accordance with the temperature and humidity requirements of the manufacturer.

B. Provide all scaffolds, drop cloths, ladders and other equipment required for the proper execution of the work.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Products: Provide products listed in Part 2 articles.

B. Manufacturer's Names: Shortened version(shown in parentheses) of the following manufacturer's names are used in Part 2 articles:
   1. Benjamin Moore & Co., (Benjamin Moore).
   2. Coronado Paint Company (Coronado).
   3. ICI Paint Stores, Inc. (Dulux Paint).
   4. Kelly-Moore Paint Co., (Kelly-Moore).

5. M.A. Bruder & Sons, Inc. (M.A.B. Paint).
6. PPG Industries, Inc, (Pittsburgh Paint).
7. Sherwin-Williams Co. (Sherwin-Williams).

2.2 PAINT MATERIALS, GENERAL

A. Provide approved paint material for each paint type required for the Work.

B. Material Compatibility: Provide block fillers, primers, and finish-coat materials that are compatible with one another and with the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

C. Material Quality: Provide manufacturer's best-quality paint material of the various coating types specified that are factory formulated and recommended by manufacturer for application indicated. Provide paint containers with manufacturer's standard identification labels. Paint-material containers not displaying manufacturer's project identification will not be acceptable.

D. Colors**:** [Match samples] [As indicated by manufacturer's designations] [As selected from manufacturer's full range]. [As indicated in Finish Schedule – SECTION 09999].

2.3 PREPARATORY COATS

A. Concrete Unit Masonry Block Filler: High-performance latex block filler of finish coat manufacturer and recommended in writing by manufacturer for use with finish coat and on substrate indicated.

B. Exterior Primer: Exterior alkyd or latex-based primer of finish coat manufacturer and recommended in writing by manufacturer for use with finish coat and on substrate indicated.
1. Ferrous-Metal and Aluminum Substrates: Rust-inhibitive metal primer.
2. Zinc-Coated Metal Substrates: Galvanized metal primer.
3. Where manufacturer does not recommend a separate primer formulation on substrate indicated, use paint specified for finish coat.

C. Interior Primer: Interior latex-based or alkyd primer of finish coat manufacturer and recommended in writing by manufacturer for use with finish and on substrate indicated.
1. Ferrous-Metal Substrates: Quick drying, rust-inhibitive metal primer.
2. Zinc-Coated Metal Substrates: Galvanized metal primer.
3. Where manufacturer does not recommend a separate primer formulation on substrate indicated, use paint specified for finish coat.

2.4 EXTERIOR FINISH COATS

A. Exterior Eggshell Acrylic Paint:
1. Benjamin-Moore; Moorcraft Super Spec Low Lustre Latex House Paint No. 185.
2. Coronado; 408-Line Supreme Acrylic Satin Exterior.
3. Dulux Paint; 2402-XXXX Dulux Professional Exterior 100 Percent Acrylic Satin Finish.
4. Kelly-Moore; 1245 Acry-Velvet Exterior Low Sheen Acrylic Finish.

5. M.A.B. Paint; Fresh Kote Latex Eggshell 405 Line.
6. Pittsburgh Paints; 90-400 Series Pitt-Tech One Pack High Performance Waterborne Satin DTM Industrial Enamels.
7. Sherwin-Williams; A-100 Exterior Latex Satin House & Trim Paint A82 Series.

B. Exterior Semi-gloss Acrylic Enamel:
1. Benjamin-Moore; Moorcraft Super Spec Latex House & Trim Paint No. 170.
2. Coronado; 12-Line Supreme Acrylic Semi-Gloss.
3. Dulux Paint; 2406-XXXX Dulux Professional Exterior 100 Percent Acrylic Semi-Gloss Finish.
4. Kelly-Moore; 1250 Acry-Lustre Exterior Semi-Gloss Acrylic Finish.
5. M.A.B. Paint; Sea Shore/Four Seasons Acrylic Latex Trim Enamel 024 Line.
6. Pittsburgh Paints; 6-900 Series SpeedHide Exterior House & Trim Semi-Gloss Acrylic Latex Paint.
7. Sherwin-Williams; A-100 Latex Gloss A8 Series.

C. Exterior Full-Gloss Acrylic Enamel for Concrete, Masonry and Wood:
1. Benjamin Moore; Moore's IMC Acrylic Gloss Enamel M28.
2. Coronado; 414 Super Kote 5000 Acrylic Gloss Enamel.
3. Dulux Paint; 3028-XXXX Dulux Interior/Exterior Acrylic Gloss Finish.
4. Kelly-Moore; 1780 Kel-Guard Acrylic Gloss Enamel.
5. M.A.B. Paint; Rust-O-Lastic Gloss Acrylic (DTM) Maintenance Finish 043 Line.
6. Pittsburgh Paints; 90 Line Pitt-Tech One Pack Interior/Exterior High Performance Waterborne High Gloss DTM Industrial Enamels.
7. Sherwin-Williams; DTM Acrylic Coating Gloss (Waterborne) B66W100 Series.
8. Sherwin-Williams; SuperPaint Exterior High Gloss Latex Enamel A85 Series.

D. Exterior Full-Gloss Acrylic Enamel For Ferrous and Other Metals:
1. Benjamin Moore; Moore's IMC Acrylic Gloss Enamel
2. Coronado; 80 Line Rust Seat Acrylic Latex High Gloss Enamel.
3. Dulux Paint; 3028-XXXX Dulux Interior/Exterior Acrylic Gloss Finish.
4. Kelly-Moore; 5780 DTM Acrylic Gloss Enamel.
5. M.A.B. Paint; Rust-O-Lastic Gloss Acrylic (DTM) Maintenance Finish 043 Line.
6. Pittsburgh Paints; 90-300 Series Pitt-Tech One Pack Interior/Exterior High Performance.
7. Sherwin-Williams; DTM Acrylic Coating Gloss (Waterborne) B66W100 Series.

E. Exterior Full-Gloss Alkyd Enamel:
1. Benjamin Moore; Moore's IMC Urethane Alkyd Enamel M22.
2. Coronado; 123 Line Super Kote 500 High Gloss Alkyd Enamel.
3. Dulux Paint; 4308-XXXX Devguard Alkyd Industrial Gloss Enamel.
4. Kelly-Moore; 1700 Kel-Guard Gloss Alkyd Rust Inhibitive Enamel.
5. M.A.B. Paint; Rust-O-Lastic Finish Coating 074 Line.
6. Pittsburgh Paints; 7-814 Pittsburgh Paints Industrial Gloss-Oil Interior/Exterior Enamel.
7. Sherwin-Williams; Industrial Enamel B-54 Series.

2.5 INTERIOR FINISH COATS

A. Interior Eggshell Acrylic Enamel:
   1. Benjamin Moore; Moorecraft Super Spec Latex Eggshell Enamel No. 274.
   2. Coronado; 30-Line Super Kote 5000 Latex Eggshell Enamel.
   3. Dulux Paint; 1402-XXXX Dulux Professional Acrylic Eggshell Interior Wall & Trim Enamel.
   4. Kelly-Moore; 1610 Sat-N-Sheen Interior Latex Low Sheen Wall and Trim Finish.
   5. Kelly Moore; 1686 Dura-Poxy Eggshell Acrylic Enamel.
   6. M.A.B. Paint; Fresh Kote Latex Satin Eggshell Enamel 405 Line.
   7. Pittsburgh Paints; 6-400 Series SpeedHide Eggshell Acrylic Latex Enamel.
   8. Sherwin-Williams; ProMar 200 Interior Latex Egg-Shell Enamel B20W200 Series.

B. Interior Semi-Gloss Acrylic Enamel:
   1. Benjamin Moore; Moorcraft Super Spec Latex Semi-Gloss Enamel No. 276.
   2. Coronado; 32-Line Super Kote 5000 Latex Semi-Gloss Enamel.
   3. Dulux Paint; 1406-XXXX Dulux Professional Acrylic Semi-Gloss Interior Wall & Trim Enamel.
   4. Kelly-Moore; 1649 Acrylic-Latex Semi-Gloss Enamel.
   5. Kelly Moore; 1685 Dura-Poxy Semi-Gloss Acrylic Enamel.
   6. M.A.B Paint; Fresh Kote Latex Semi-Gloss 410 Line.
   7. Pittsburgh Paints; 6-500 Series SpeedHide Interior Semi-Gloss Latex.
   8. Sherwin-Williams; ProMar 200 Interior Latex Semi-Gloss Enamel B31W200 Series.

C. Interior Full-Gloss Acrylic Enamel:
   1. Benjamin Moore; Moore's IMC Acrylic Gloss Enamel No. M28.
   2. Coronado; 414 Line Super Kote 5000 Acrylic High Gloss Enamel.
   3. Dulux Paint; 3028-XXXX Dulux Interior/Exterior Acrylic Gloss Finish.
   4. Kelly-Moore; 1680 Dura-Poxy Gloss Acrylic Enamel.
   5. M.A.B. Paints; Rich Lux Architectural High Gloss Latex Enamel 022-127 Line.
   6. Pittsburgh Paints; 6-8534 SpeedHide Interior Latex 100 Percent Acrylic Gloss Enamels.
   7. Pittsburgh Paints; 90-374 Pitt-Tech One Pack Interior/Exterior High Performance Waterborne High Gloss DTM Industrial Enamel.
   8. Sherwin-Williams; ProMar 200 Interior Latex Gloss Enamel B21W201.

D. Interior Semi-Gloss Alkyd Enamel:
   1. Benjamin Moore; Moorcraft Super Spec Alkyd Semi-Gloss Enamel No. 271.
   2. Coronado; 27-Line Super Kote 5000 Alkyd Semi-Gloss Enamel.
   3. Dulux Paint; 1516-XXXX Ultra-Hide Alkyd Semi-Gloss Interior Wall & Trim Enamel.
   4. Kelly-Moore; 1630-Kel-Cote Interior Alkyd Semi-Gloss Enamel.
   5. M.A.B. Paint; Fresh Kote Semi-Gloss 403 Line.
   6. Pittsburgh Paints; 6-1110 Series SpeedHide Interior Enamel Wall & Trim Semi-Gloss Oil.
   7. Sherwin-Williams; ProMar 200 Interior Alkyd Semi-Gloss Enamel B34W200 Series.

E. Interior Full-Gloss Alkyd Enamel for Gypsum Board and Plaster:
   1. Benjamin Moore; Moore's IMC Urethane Alkyd Enamel No. M22.

2. Coronado; 123 Line Super Kote 5000 High Gloss Alkyd Enamel.
3. Dulux Paint; 4308-XXXX Devguard Alkyd Industrial Gloss Enamel.
4. Kelly-Moore; 1700 Kel-Guard Alkyd Rust Inhibitive Enamel.
5. M.A.B. Paints; Rich Lux Architectural Bright White Enamel 026-127 Line.
6. Pittsburgh Paints; 7-814 Series Pittsburgh Paints Industrial Gloss-Oil Interior/Exterior Enamel.
7. Sherwin-Williams; ProMar 200 Alkyd Gloss Enamel B35W200 Series.

F. Interior Full-Gloss Alkyd Enamel for Wood and Metal Surfaces:
1. Benjamin Moore; Moore's IMC Urethane Alkyd Enamel No. M22.
2. Coronado; 123 Line Super Kote 5000 High Gloss Alkyd Enamel.
3. Dulux Paint; 4308-XXXX Devguard Alkyd Industrial Gloss Enamel.
4. Kelly-Moore; 1630—Kel-Cote Interior Alkyd Semi-Gloss Enamel.
5. M.A. B. Paint; Rich Lux Architectural Bright White Enamel 026-127 Line.
6. Pittsburgh Paints; 7-814 Series Pittsburgh Paints Industrial Gloss-Oil Interior/Exterior Enamel.
7. Sherwin-Williams; ProMar 200 Alkyd Gloss Enamel B35W200 Series.

G. Interior Semi-Gloss White Dryfall Spray Paint: Provide the following finish system for repainting existing plant ceilings, including underside of metal roof deck and structural steel roof framing, trusses, beams, purlins, etc.
1. One finish coat over all surfaces: Semi-gloss white dryfall spray paint applied at spreading rate recommended by manufacturer for complete hiding of previously painted surfaces.
a. ICI Dulux Paints #1486-12000 Dryfall Semi-Gloss Finish.
b. Sherwin-Williams #B42W2 Semi-Gloss White Dry Fall.
c. PPG Paints #6-714 Speedhide Dry Fog.

PART 3 EXECUTION

3.1 EXAMINATION AND ACCEPTANCE OF CONSTRUCTION IN PLACE

A. Examine construction in place with applicator on which the work of this SECTION is dependent. Defects which may influence satisfactory completion and performance of the work of this SECTION shall be corrected per the requirements of the applicable SECTION of the SPECIFICATIONS prior to commencement of the work. Do not start work until defects have been corrected and surfaces are cured and dry. Commencement will be construed as construction in place being acceptable for satisfying the requirements of this SECTION.

B. Coordination: Review primer and undercoating specifications of other sections to provide compatibility of finish coats and substrates. Provide requested information on finish coats to other to ensure compatibility of finish coats and substrates.
1. Notify the Owner's Representative about compatibility concerns of specified paints and finish coatings and other primers and substrates.

3.2 PREPARATION OF SURFACES

A. General
   1. Prepare surfaces to be painted as part of the WORK in accordance with instructions which follow.
   2. NOTE: The WORK may not require the use of all surface preparation instructions specified.

B. Remove hardware from doors and other miscellaneous hardware, plates, lights and miscellaneous items. Mask and cover items impractical to move or dissassemble before preparation of surfaces and painting.
   1. Remove masking and covering after painting and reinstall hardware, lights and accessories with workmen skilled in their installation.

C. Clean substrates of grease, oil and materials detrimental to the bonding of the coatings.
   1. Schedule cleaning before painting to prevent dusts from cleaning from falling on and damaging newly painted surfaces.

D. Preparation of Surfaces: Provide cleaning and preparation of surfaces according to the written instructions of the manufacturer for each substrate specified.
   1. Provide barrier coatings between incompatible primers and surface coats or remove the incompatible primers and reprime with a compatible primer.

E. Ferrous Metals
   1. Unprimed: Clean ferrous metal surfaces that have not been primed, removing oil, grease, dirt, mill scale and other detrimental materials. Use cleaning methods recommended by the Steel Structures Painting Council (SSPC) by cleaning solvents or mechanical means.
   2. Unprimed: Blast clean per SSPC-SP6 for Commercial Blast Cleaning.
   3. Unprimed: Provide metal treatment wash for bare, sandblasted or pickled metal before painting.
   4. Shop Primed: Remove grease, rust, scale and dust, and touch up, with metal or zinc-chromate primer, chipped and abraded places, weld scars, rust spots, and other spots where the prime coat is damaged.
   5. Zinc-Coated: Wash with mineral spirits. Remove white deposit on weathered surfaces with soap and water, and rinse with clean water.

F. Cementitious Materials: Concrete, concrete masonry block, and cement plaster.
   1. Remove efforescence, dirt, chalk, dust, grease and oil.
   2. Roughen glazed surfaces.
   3. Perform test to determine moisture content of the substrate. Do not paint surfaces that exceed the limits permitted by the manufacturer’s written instructions.
   4. Perform test to determine alkalinity of the substrate. Do not paint surfaces that exceed the limits permitted by the manufacturer’s written instructions.

G. Masonry
   1. Smooth surface by grinding, stoning or scraping. Clean free of effloresecence, dirt, dust, chalk, grease and oils.

2. Upon testing, if surfaces are sufficiently alkaline to cause paint to blister or burn, sponge surface with a zinc-sulphate solution consisting of 2 lbs. zinc-sulphate to one gallon of water. When solution is dry, brush off the crystals prior to painting.

H. Concrete
   1. Smooth surfaces by grinding, stoning, or scraping. Clean free of efflorescence, dirt and dust.
   2. Surfaces Which Are Highly Glazed or Have Traces of Form Oil: Treat with a preparation of acid detergent concentration and dilute muriatic acid. For this treatment, mix one part concentrated muriatic acid and 4 parts water, and then add one part of acid detergent. Remove the acid with clean water.
   3. Stains from the Weathering of Corroded Metals: Remove with a solution of 2 ounces of sodium metasilicate in one gallon of water. Thoroughly wet stained areas on weathered surfaces with water before application of solution.
   4. Roughen all floor slabs to be painted either by shot blasting or acid etching. For acid etching, follow paint manufacturer's recommendations and reclaim all drainage. Surface texture shall be similar to "fine grit" sand paper.
   5. Test floor slabs for moisture as recommended by ASTM D4263 using 24 inch square segments of plastic sheet, placed for 48 hours. Perform one test for every 200 square feet of floor to be painted. If acid etching was used as surface preparation, perform moisture test <u>after</u> removal of acid.

I. Gypsum Board
   1. Before painting, allow joint treatment to dry completely. Clean surfaces of dirt and dust.

J. Non-Ferrous Metals
   1. Aluminum: Wipe with recommended solvent for oil and grease.
   2. Terne Metal: Spot clean with recommended solvent for oil and grease.

K. Existing Construction
   1. Existing Painted Surfaces to be Painted: Paint existing painted surfaces damaged by the WORK of this CONTRACT, existing painted items being relocated, and other existing surfaces scheduled or noted to be painted, to match adjacent existing unless noted or specified otherwise.
      a. Remove loose paint by scraping, and sand to feather-edge all areas where paint has been scraped off, chipped or peeled.
      b. Clean free of dirt, dust and other surface accumulations by washing; rinse and allow to dry thoroughly prior to application of new paint materials.
   2. Existing Metal Surfaces to be Painted: Prime paint bare areas.

L. Preparation of Primers, Paints and Coatings:
   1. Follow manufacturer's written instructions for preparation and mixing.
   2. Maintain mixing containers and application equipment in clean condition without residue and other paint contaminants.
   3. Stir or mix paints to a uniform consistency.

4. Remove surface films in paint containers. Strain paint materials to remove residue or contaminants.
5. Thin paint material within the limits set in the manufacturer's written instructions. Only use thinners approved by the manufacturer.

3.3 PAINT APPLICATION

A. General
   1. Apply paint in accordance with the paint manufacturer's recommendations and instructions which follow.
   2. All spaces shall be broom clean before painting is started.
   3. Surfaces to be painted shall be clean, dry, smooth and protected from dampness.
   4. Do not finish-paint equipment or piping prior to test and approval.
   5. Do not paint piping, duct and equipment surfaces while such surfaces are hot.
   6. Make edges of paint adjoining other materials and colors, sharp and clean, without overlapping.
   7. Allow each coat of paint to dry at least 24 hours before succeeding coat is applied, unless manufacturer's printed directions recommend otherwise.
   8. Paint coats, as specified under "PAINTING SCHEDULE", are intended to cover surfaces perfectly. If surfaces are not adequately covered, as determined by the OWNER'S REPRESENTATIVE, apply further coats to achieve complete coverage of surfaces at no additional cost to OWNER.
      a. Each prime coat, intermediate coat, and finish coat shall have a <u>minimum</u> dry film thickness of 1.5 mils unless specified otherwise.
   9. Finished work shall be uniform, of approved color, and free from defective brushing, spraying or rolling, and clogging or excessive flooding.
   10. Paint exposed surfaces. "Exposed surfaces" means all surfaces or areas visible when the permanent construction is completed, and when al built-in cabinets, fixtures, convector covers, grilles and similar items are in place. "Exposed surfaces" shall include all surfaces or areas in back of cabinets, furniture, equipment and other items that are not built-in or fixed in place, and also shall include all surfaces visible through grilles, louvers and registers, and all roof-mounted ferrous metal items.
   11. Surfaces visible through grilles, louvers and registers shall be painted flat black.
   12. Apply one prime coat to wall surfaces directly behind fixed or built-in cabinets, millwork or fixtures before final installation.
   13. Paint top, sides and bottom edges of all interior and exterior doors.
   14. Sand lightly between coats
   15. Provide finish on the interior of casework and millwork to match the exterior of the casework or millwork.

B. Scheduling: Promptly apply first coat to surfaces after pretreatment to prevent surface deterioration.
   1. Apply succeeding coats only when the previous coat has dried per manufacturer's instructions. Sand between coats per manufacturer's instructions.
   2. Provide adequate time between coats to allow drying. Do not apply successive coat to tacky or sticky surfaces.

3. Finish coat must be uniform in color and appearance and must cover the undercoats. If necessary apply additional coats to provide uniform color and appearance.

C. Paint Mixing
   1. Perform in accordance with directions of manufacturer.

D. Methods Of Application
   1. Brush (B), Roller (R) or Spray (S) application may be used in accordance with the following:

SURFACE	PRIMER	INTERMEDIATE COAT(S)	FINISH COAT
Ferrous Metal			
Primed	---	B, R or S	B, R or S
Unprimed	B	B, R or S	B, R or S
Masonry	R or S	R or S	R or S
Gypsum Wallboard	R or S	R or S	R or S
Wood			
Primed	---	B	B
Unprimed	B	B	B
Concrete	R or S	R or S	R or S
Non-ferrous Metal			
Primed	---	B, R or S	B, R or S
Unprimed	B	B, R or S	B, R or S

   2. If brush application is preferred where roller or spray is specified, brush application will be allowed provided the filling in of voids and coverage of the surface is equivalent to smooth surface specified.
   3. Regardless of the method of application (brush, roller or spray) used, the finished surface shall be smooth and free from runs, sags, utensil marks, or clogs.

E. Small Cracks In Concrete and Masonry Surfaces
   1. Before application of succeeding coats, fill with an approved spackling compound, small cracks, holes and other similar imperfections which show up in concrete and masonry surfaces after the primer-sealer has been applied to the surface.

F. Mechanical and Electrical Work: Paint mechanical and electrical work items which will be exposed to view after completion of the building to match adjacent surfaces, except for prefinished or plated surfaces.
   1. Painting of mechanical items includes but is not limited to the following: piping, valves, pipe hangers, piping supports, tanks, ducts, insulation, heat exchangers, motors, fans and pumps.
   2. Painting of electrical items includes but is not limited to the following: conduit, fittings, switchgear, panel boards, boxes, unfinished equipment and auxiliary metal including hangers, supports, anchors and accessories.

G. Block Fillers: Ensure that filler completely covers pores in masonry block.

H. Final Touch Up: At completion after all adjacent work has been completed, touch up and restore finish where damaged.

I. Completed Work: Verify that color, texture and coverage match approved paint samples. Repaint or refinish non-compliant Work and leave in specified condition.

3.4 COLORS

A. Colors shall be in accordance with color schedule furnished by the ARCHITECT-ENGINEER. No extras will be approved because of the color variety selected by the ARCHITECT-ENGINEER.

B. Tint the primers and intermediate coats a different color to distinguish between the several coats, and as required by color selected for the final coat.

C. Unless otherwise required by the color schedule, or specified:
   1. Paint ferrous metal items of mechanical and electrical work to match color and sheen of adjacent wall and ceiling surfaces.
   2. Paint the interiors of ducts exposed to view at grilles, registers and air intakes a flat black.
   3. Paint surfaces in areas requiring alteration work to match color and sheen of respective existing finishes.

3.5 FIELD QUALITY CONTROL

A. The Owner reserves the right to engage a testing agency to perform test procedures the Owner deems necessary during application of the paint finishes.
   1. The testing agency will take paint samples of the materials delivered to the site. Samples will be identified, sealed and certified in the presence of the Contractor.
   2. The testing agency will perform the following tests as directed by the Owner:
      a. Adhesion.
      b. Resistance to abrasion.
      c. Reflectivity.
      d. Flexibility.
      e. Washability.
      f. Absorption.
      g. Accelerated weathering.
      h. Dry opacity.
      i. Accelerated yellowness.
      j. Recoating.
      k. Skinning.
      l. Retention of color.
      m. Resistance to alkali and mildew.
      n. Quantitative material analysis.
   3. If the testing procedures indicate noncompliance to requirements, the Owner may direct the Contractor to stop painting and remove noncompliant paint materials from the site. Also, the Contractor will be responsible to repaint or remove and repaint noncompliant painted

surfaces if the surface requiring repainting is incompatible with the rejected painted surface.

3.6 CLEAN-UP

A. Remove soiled rags, empty paint containers and other paint debris from the site daily. Dispose of waste materials in a legal manner.

B. Remove paint spatters from adjacent surfaces in a manner that does not damage the surface. Clean or wash adjacent surfaces to restore acceptable finish appearance.

3.7 PROTECTION

A. Protect installed work by others, including work not painted, from damage by painting. Provide appropriate masking and coverings over adjacent construction. Clean, repair, replace or repaint damaged surfaces as approved by the Owner's Representative.
   1. Before start of painting, remove finish hardware, accessories, plates and similar items in place, or provide ample protection of such items as approved by the Owner's Representative. Do not remove UL labels on doors and frames.
   2. Remove doors, if necessary, to paint top and bottom edges.
   3. Upon completion of painting, reinstall removed items.
   4. Use only workmen skilled in the applicable building trade for removal and replacement of finished items.
   5. Close off the various spaces while painting, and exclude dust until the finish is dry. Post "Wet Paint" signs as required to protect newly finished spaces.
   6. At completion of this work in a space, remove paint spots from floors, glass and other surfaces. Leave finished space clean and in acceptable condition.
   7. At completion of work in area protected by fire protection system, remove the temporary covers on the fire protection sprinkler heads.
   8. At completion of painting, remove masking, wrappings, coverings and posted signs.

PART 4 PAINTING SCHEDULE

4.1 INCLUSIONS

A. Except for those items, surfaces and areas listed under "EXCLUSIONS", include in the work of this SECTION, the painting of all work that is customarily painted to provide a complete job, including mechanical and electrical work, whether or not each such item, surface or area is specifically shown or specified. Paint work that is not specifically shown or specified, same as similar work or, where no similarity exists, paint with a system directed by the OWNER'S REPRESENTATIVE.

B. Paint unpainted existing surfaces exposed by alteration and removal work where such surfaces will remain exposed in painted areas.

C. Prior to the application of paint, prepare the respective surfaces to receive paint per the requirements specified under “PREPARATION OF SURFACES”.

4.2 EXCLUSIONS

A. Unless one or more of the following items, surfaces or areas are specifically included under a specified paint system to be painted, exclude from painting under this SECTION, the following:
   1. Shop prime painting and products having factory finish.
   2. Face brick, paving brick and quarry tile.
   3. Glazed surfaces of glazed concrete masonry and structural glazed facing tile.
   4. Concrete floors with chemical hardener finish.
   5. Finished floor, wall and ceiling materials, such as resilient flooring, carpeting, vinyl fabric wall covering, and acoustical ceilings.
   6. Plastic laminate-covered surfaces.
   7. Copper, stainless steel, brass, bronze and chromium-plated surfaces.
   8. Aluminum.
   9. Glass.
   10. Glazing compound and sealants.
   11. Roofing and non-ferrous flashing materials.
   12. Sprayed fireproofing.
   13. Concealed construction, such as wall surfaces and mechanical and electrical systems within suspended ceiling spaces, wall shafts, chases and furred spaces.
   14. Nameplates and UL labels on doors and frames. Be responsible for ensuring that all nameplates and UL labels are not painted.
   15. Gages, thermometers and other recording devices.
   16. Moving parts of mechanical equipment, such as shafts, valve stems, etc.

4.3 EXTERIOR FERROUS METAL SYSTEMS

A. Full Gloss Finish
   1. Surfaces: Exterior steel, iron and zinc-coated (galvanized) surfaces not generally exposed to public view, such as: Roof hatches, roof-mounted mechanical equipment and supports, structural steel and miscellaneous metal fabrication items.
   2. First Coat; Ferrous Metal Primer: For bare steel and touch up of shop coat or existing finish.
   3. First Coat; Galvanized Metal Primer: For zinc-coated surfaces.
   4. Second Coat: Exterior Alkyd Gloss Enamel.
   5. Third Coat: Exterior Alkyd Gloss Enamel.

B. Semi-Gloss Finish
   1. Surfaces: Exterior steel, iron and zinc-coated (galvanized) surfaces generally exposed to public view, such as: Hollow metal doors and frames, steel truck doors and frames, steel windows, steel louvers, structural steel and miscellaneous metal fabrication items.
   2. First Coat; Ferrous Metal Primer: For bare steel and touch-up of shop coat or existing finish.
   3. First Coat; Galvanized Metal Primer: For zinc-coated surfaces.

4. Second Coat: Exterior Acrylic Latex Semi-Gloss Enamel.
5. Third Coat: Exterior Acrylic Latex Semi-Gloss Enamel.

C. Eggshell Finish
1. Surfaces: Exterior steel, iron and zinc-coated (galvanized) surfaces generally exposed to public view, such as: Hollow metal doors and frames, steel truck doors and frames, steel windows, steel louvers, structural steel and miscellaneous metal fabrication items.
2. First Coat; Ferrous Metal Primer: For bare steel and touch-up of shop coat or existing finish.
3. First Coat; Galvanized Metal Primer: For zinc-coated surfaces.
4. Second Coat: Exterior Acrylic Latex Low Luster Paint.
5. Third Coat: Exterior Acrylic Latex Low Luster Paint.

4.4 EXTERIOR CONCRETE AND CONCRETE MASONRY SYSTEMS

A. Full-Gloss Finish
1. Surfaces: Exterior concrete and concrete masonry construction.
2. First Coat (required on concrete masonry only): Block Filler.
3. Second Coat: Exterior Acrylic Latex Semi-Gloss Enamel.
4. Third Coat: Exterior Acrylic Latex Semi-Gloss Enamel.

4.5 EXTERIOR NON-FERROUS METAL SYSTEMS

A. Full Gloss Finish
1. Surfaces: Exterior aluminum.
2. First Coat: Non-Ferrous Metal Primer.
3. Second Coat: Exterior Alkyd Gloss Enamel.
4. Third Coat: Exterior Alkyd Gloss Enamel.

4.6 INTERIOR FERROUS METAL SYSTEMS

A. Full Gloss Finish
1. Surfaces: Interior steel and zinc-coated (galvanized) surfaces set in floor or mounted in walls where subject to wear, such as: Floor curbs and frames, steel grating, steel stair risers and portions of stringers exposed to foot traffic, steel pipe railings and hand rails, and steel ladders.
2. First Coat; Ferrous Metal Primer: For bare steel and touch up of shop coat.
3. First Coat; Galvanized Metal Primer: For zinc-coated surfaces.
4. Second Coat: Interior Alkyd Gloss Enamel.
5. Third Coat: Interior Alkyd Gloss Enamel.

B. Semi-Gloss Finish
1. Surfaces: Hollow metal frames and doors, steel stair surfaces exposed to public view except risers and portions of stringers exposed to foot traffic, vault door and frame, and elevator and dumbwaiter hoistway doors and frames.
2. First Coat; Ferrous Metal Primer: For bare steel and touch up of shop coat.
3. First Coat; Galvanized Metal Primer: For zinc-coated surfaces.

4. Second Coat: Interior Alkyd Semi-Gloss Enamel.
5. Third Coat: Interior Alkyd Semi-Gloss Enamel.

C. Eggshell Finish
1. Surfaces: Structural steel, steel joists, underside of metal roof deck and floor deck. Also metal surfaces not otherwise specified, exposed to public view at ceilings in toilets and baths, and at walls, such as: Metal access doors, convector covers, bare piping, ducts, grilles, registers, conduit and other miscellaneous paintable metal surfaces.
2. First Coat; Ferrous Metal Primer: For bare steel and touch up of shop coat.
3. First Coat; Galvanized Metal Primer: For zinc-coated surfaces.
4. Second Coat: Interior Acrylic Low Luster Enamel.
5. Third Coat: Interior Acrylic Low Luster Enamel.

D. Machinery Enamel Finish
1. Surfaces: Mechanical equipment, machinery and appliances, including motors, starters and control equipment, such as: Pumps, compressors, fans, unit heaters, ventilators and air conditioning units. Exclude machined parts.
2. First Coat; Ferrous Metal Primer: For bare steel and touch up of shop coat.
3. First Coat; Galvanized Metal Primer: For zinc-coated surfaces.
4. Second Coat: Machinery Enamel.
5. Third Coat: Machinery Enamel.

4.7 INTERIOR MASONRY SYSTEMS

A. Eggshell Finish
1. Surfaces: Interior concrete masonry wall surfaces exposed to view, and not otherwise specified.
2. First Coat: Block Filler.
3. Second Coat: Interior Acrylic Low Luster Enamel.
4. Third Coat: Interior Acrylic Low Luster Enamel.

4.8 INTERIOR GYPSUM BOARD SYSTEMS

A. Full-Gloss Finish
1. Surfaces: Gypsum board as indicated.
2. First Coat: Interior Alkyd Primer – Sealer.
3. Second Coat: Interior Alkyd Gloss Enamel.
4. Third Coat: Interior Alkyd Gloss Enamel.

B. Semi-Gloss Finish
1. Surfaces: Gypsum board as indicated.
2. First Coat: Interior Alkyd Primer – Sealer.
3. Second Coat: Interior Alkyd Semi-Gloss Enamel.
4. Third Coat: Interior Alkyd Semi-Gloss Enamel.

C. Eggshell Finish
   1. Surfaces: Gypsum board ceilings in toilets and baths, and surfaces of all gypsum board walls exposed to view.
   2. First Coat: Interior Latex Primer-Sealer.
   3. Second Coat: Interior Acrylic Low Luster Enamel.
   4. Third Coat: Interior Acrylic Low Luster Enamel.

4.9 INTERIOR GYPSUM SYSTEMS

A. Full-Gloss Finish
   1. Surfaces: Plaster as indicated.
   2. First Coat: Interior Alkyd Primer-Sealer.
   3. Second Coat: Interior Alkyd Gloss Enamel.
   4. Third Coat: Interior Alkyd Gloss Enamel.

B. Semi-Gloss Finish
   1. Surfaces: Plaster as indicated.
   2. First Coat: Interior Alkyd Primer-Sealer.
   3. Second Coat: Interior Alkyd Semi-Gloss Enamel.
   4. Third Coat: Interior Alkyd Semi-Gloss Enamel.

C. Eggshell Finish
   1. Surfaces: Plaster ceilings in toilets and baths, and surfaces of plaster walls exposed to view.
   2. First Coat: Interior Latex Primer-Sealer.
   3. Second Coat: Interior Acrylic Low Luster Enamel.
   4. Third Coat: Interior Acrylic Low Luster Enamel.

4.10 INTERIOR CONCRETE SYSTEMS

A. Semi-Gloss Enamel Finish
   1. Surfaces: Interior concrete wall surfaces in areas shown on the Finish Schedule as “paint”.
   2. First Coat: Interior Latex Primer Sealer.
   3. Second Coat: Interior Alkyd Semi-Gloss Enamel.
   4. Third Coat: Interior Alkyd Semi-Gloss Enamel.

END OF SECTION

Revision History	
Date	**Rev. No.**
A	0
B	0
C	0
D	0
E	0
F	0
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