

SECTION 099123 - INTERIOR PAINTING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes surface preparation and the application of paint systems on the following interior substrates:
 - 1. Concrete.
 - 2. Concrete masonry units (CMU).
 - 3. Steel.
 - 4. Galvanized metal.
 - 5. Wood.
 - 6. Gypsum board.
- B. Related Sections include the following:
 - 1. Section 099113 "Exterior Painting" for surface preparation and the application of paint systems on exterior substrates.

1.3 DEFINITIONS

- A. Gloss Level 1 (Flat): Not more than 5 units at 60 degrees and 10 units at 85 degrees, according to ASTM D523.
- B. Gloss Level 2 (High Side, Flat): Not more than 10 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D523.
- C. Gloss Level 3 (Eggshell): 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D523.
- D. Gloss Level 4 (Satin): 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D523.
- E. Gloss Level 5 (Semigloss): 35 to 70 units at 60 degrees, according to ASTM D523.
- F. Gloss Level 6 (Gloss): 70 to 85 units at 60 degrees, according to ASTM D523.
- G. Gloss Level 7 (High Gloss): More than 85 units at 60 degrees, according to ASTM D523.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Paint Schedule: Provide a paint schedule indicating surface and actual paint product to be used on that surface for each surface and product.
- C. Samples for Initial Selection: For each type of topcoat product indicated.
- D. Samples for Verification: For each type of paint system and in each color and gloss of topcoat indicated.
 - 1. Submit Samples on rigid backing, 8 inches (203.2 mm) square.
 - 2. Step coats on Samples to show each coat required for system.
 - 3. Label each coat of each Sample.
 - 4. Label each Sample for location and application area.

1.5 INFORMATION SUBMITTALS

- A. Qualification Data: For applicator.

1.6 QUALITY ASSURANCE

- A. Applicator Qualifications: A firm or individual experienced in applying paints and coatings similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.
- B. Source Limitations: Obtain block fillers and primers for each coating system from the same manufacturer as the finish coats.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F (7 deg C).
 - 1. Maintain containers in clean condition, free of foreign materials and residue.
 - 2. Remove rags and waste from storage areas daily.

1.8 FIELD CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F (10 and 35 deg C).
- B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.
- C. This Project contains existing surfaces requiring additional preparation from new/unpainted surfaces. Prepare existing surfaces in accordance with "Preparation of Existing Surfaces" specified elsewhere in this section.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Products: Subject to compliance with requirements, provide one of the products listed in other Part 2 articles.
- B. Manufacturers' Names: Shortened versions (shown in parentheses) of the following manufacturers' names are used in other Part 2 articles:
 - 1. Benjamin Moore & Co. (Moore).
 - 2. Pittsburgh Paints (PITT) – formerly PPG Paint
 - 3. Sherwin Williams (S/W)

2.2 PAINT, GENERAL

- A. 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.
- B. 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. Paint-material containers not displaying manufacturer's product identification will not be acceptable.
- C. Colors: As selected by Architect from manufacturer's full range.
- D. Accent Painting: Accent painting is defined as painting of indicated surfaces with a different color than adjacent surfaces. Contractor shall assume the following surfaces will receive accent painting:
 - 1. All metal door and view window frames.
 - 2. All metal window frames in wood doors.

2.3 BLOCK FILLERS

- A. Concrete Unit Masonry Block Filler: Factory-formulated acrylic latex block fillers. Apply at a spreading rate recommended by the manufacturer but not less than a dry film thickness of 8 mils (0.2032 mm).
 - 1. Moore 571 Ultra Spec Hi-Build Masonry Block Filler
 - 2. PITT 6-7 Speedhide Acrylic Latex Masonry Block Filler

3. S/W B25W25 Prep Rite Acrylic Latex Block Filler

2.4 INTERIOR PRIMERS

- A. Interior Concrete and Masonry Primer: Factory-formulated alkali-resistant acrylic-latex interior primer for interior application. Apply at a spreading rate recommended by the manufacturer but not less than a dry film thickness of 1.2 mils (0.03048 mm).
1. Moore 608 Ultra Spec Masonry Interior/Exterior 100% Acrylic Sealer
 2. PITT 4-603XI Perma Crete Alkali Resistant Primer
 3. S/W LX02W0050 Loxon Concrete and Masonry Latex Primer
- B. Interior Gypsum Board Primer: Factory-formulated latex-based primer for interior application. Apply at a spreading rate recommended by the manufacturer but not less than a dry film thickness of 1.2 mils (0.03048 mm).
1. Moore N534 Ultra Spec 500 Interior Latex Primer
 2. PITT 6-2 Speedhide Latex Primer Sealer
 3. S/W B28W2600 Pro Mar 200 Zero VOC Latex Primer
- C. Interior Wood Primer for Full-Gloss Alkyd-Enamel Finishes: Factory-formulated alkyd- or acrylic-latex-based interior wood primer. Apply at a spreading rate recommended by the manufacturer but not less than a dry film thickness of 1.5 mils (0.0381 mm).
1. Moore 032 Fresh Start Undercoater and Primer/Sealer
 2. PITT 17-921X 1 Seal Grip Universal Primer
 3. S/W B49W8820 Multi-Purpose Oil Based Primer
- D. Interior Ferrous-Metal Primer (unless noted otherwise): Factory-formulated quick-drying rust-inhibitive alkyd-based metal primer. Apply at a spreading rate recommended by the manufacturer but not less than a dry film thickness of 2.0 mils (0.0508 mm).
1. Moore HP1100 Acrylic Metal Primer
 2. PITT Multiprime 4160 Rust Inhibitive Alkyd Primer
 3. S/W B50*Z6 Kem Kromik Universal Metal Primer
- E. Interior Ferrous-Metal Primer for Dryfog/Dryfall Finishes: Factory-formulated quick-drying rust-inhibitive acrylic metal primer. Apply at a spreading rate recommended by the manufacturer but not less than a dry film thickness of 2.0 mils (0.0508 mm).
1. Moore HP1100 Acrylic Metal Primer
 2. PITT 90-1912 Pitt-Tech Plus EP Hi Performance Acrylic Primer & Finish
 3. S/W B66 Pro Industrial Pro-Cryl Universal Prime
- F. Interior Zinc-Coated Metal Primer: Factory-formulated galvanized metal primer. Apply at a spreading rate recommended by the manufacturer but not less than a dry film thickness of 2.0 mils (0.0508 mm).
1. Moore HP110 Acrylic Metal Primer
 2. PITT 90-1912 Pitt-Tech Hi Plus EP Performance Acrylic Primer
 3. S/W B66-1310 Pro Industrial Pro-Cryl Universal Primer
- G. Interior Zinc-Coated Metal Primer for Dryfall/Dryfog Finishes: Factory-formulated rust-inhibitive acrylic metal primer. Apply at a spreading rate recommended by the manufacturer but not less than a dry film thickness of 2.0 mils (0.0508 mm).
1. Moore HP1100 Acrylic Metal Primer
 2. PITT 90-1912 Pitt-Tech Plus EP Hi Performance Acrylic Primer
 3. S/W B66 Pro Industrial Pro-Cryl Universal Primer

2.5 INTERIOR FINISH COATS

- A. Interior Low-Luster Acrylic Enamel: Factory-formulated eggshell acrylic-latex interior enamel. Apply at a spreading rate recommended by the manufacturer but not less than a dry film thickness of 2.8 mils (0.07112 mm), excluding primer coat.
1. Moore T538 Ultra Spec 500 Interior Eggshell

2. PITT 6-411ZV Series Speedhide Zero VOC Latex Eggshell
3. S/W B20W12651 ProMar 200 Zero VOC Latex Eggshell
- B. Interior Semigloss Waterborne Acrylic Dryfall/Dryfog: Factory-formulated semigloss waterborne acrylic dryfall/dryfog for interior application. Apply at a spreading rate recommended by the manufacturer but not less than a dry film thickness of 2.0 mils, per coat.
 1. Moore 397 Latex Dry Fall Semi-Gloss
 2. PITT 6-724XI Speedhide Super-Tech WB Semi-Gloss Dryfog
 3. S/W B42W83 Low VOC Waterborne Acrylic Dryfall Semi-Gloss
- C. Interior Semigloss Pre-Catalyzed Water-Borne Epoxy: Factory formulated semigloss pre-catalyzed water-borne epoxy. Apply at a spreading rate recommended by the manufacturer but not less than a dry film thickness of 1.5 mils (0.0381 mm) excluding prime coat.
 1. Moore HP3410 Pre-Catalyzed Waterborne Epoxy Semi-Gloss
 2. PITT 16-510 Series Pitt-Glaze WB-1 Pre-Catalyzed Water-Borne Acrylic Epoxy Semigloss
 3. S/W K46-150 Series Pre-Catalyzed Waterbase Epoxy, Semigloss
- D. Interior Full-Gloss Alkyd Enamel for Wood and Metal Surfaces: Factory-formulated full-gloss alkyd interior enamel. Apply at a rate recommended by the manufacturer but not less than a total dry film thickness of 2.0 mils (0.0508 mm) per coat.
 1. Moore HP2200 Alkyd Urethane Enamel Gloss
 2. PITT 4139-10 Glyptex Alkyd Gloss Enamel
 3. S/W B54-150 Series Pro Industrial Urethane Alkyd Enamel, Gloss

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 1. Concrete: 12 percent.
 2. Wood: 15 percent.
 3. Gypsum Board: 12 percent.
- C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- D. Begin coating application only after unsatisfactory conditions have been corrected and surfaces are dry.
 1. Beginning coating application constitutes Contractor's acceptance of substrates and conditions.
- E. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.
 1. Notify Architect about anticipated problems when using the materials specified over substrates primed by others.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
- B. Remove plates, machined surfaces, and similar items already in place that are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
2. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
- C. Clean substrates of substances that could impair bond of paints, including dirt, oil, grease, and incompatible paints and encapsulants.
 1. Remove incompatible primers and reprime substrate with compatible primers as required to produce paint systems indicated.
- D. Concrete Substrates: Remove release agents, curing compounds, efflorescence, and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.
- E. Concrete Masonry Substrates: Remove efflorescence and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.
- F. Steel Substrates: Remove rust and loose mill scale. Clean using methods recommended in writing by paint manufacturer.
- G. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal fabricated from coil stock by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.
- H. Wood Substrates:
 1. Scrape and clean knots and apply coat of knot sealer before applying primer.
 2. Sand surfaces that will be exposed to view, and dust off.
 3. Prime edges, ends, faces, undersides, and backsides of wood.
 4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.
- I. Gypsum Board Substrates: Do not begin paint application until finishing compound is dry and sanded smooth.

3.3 PREPARATION OF EXISTING SURFACES:

- A. General: All surfaces must be cleaned and be free of mildew and construction dust and dirt. Remove all gum and tape and subsequent residue. Repair cracks and remove old, deteriorated caulk in masonry walls. Bare wood and metal must be spot primed. All loose paint must be scraped and/or sanded to provide sound substrate. Rusty metal must be wire brushed and scraped to remove any loose paint.
- B. Priming and Blockfill on Existing Surfaces: Unless required by manufacturer, specified primers and block fillers may be omitted on existing surfaces where existing finishes are in good condition and are not otherwise removed. Any areas of peeling paint removal or removal of any existing finishes down to bare substrates and shall be re-primed or blockfilled prior to installing new paint finishes. If existing surfaces require priming, new primers shall be as recommended by the paint manufacturer for the existing surfaces/conditions present.
- C. Existing Concrete Masonry Units to be Painted: All poorly adhered or peeling paint shall be removed before application of new paint as scheduled. All areas where masking tape applied to wall surfaces removes paint or where paint is already peeling shall be wire brushed and lightly sanded to remove all non-adhering paint. Care should be taken not to damage wall surfaces with over aggressive wire brushing so as not to permanently mar faces of block. Do not proceed with application of primer until written approval for surface preparation has been secured from Architect.
- D. Existing CMU Walls: Before painting existing block, clean walls of airborne grease and residue, hand oils and any other substance that would prevent adhesion of the finish coat and scuff sand all glossy surfaces. Remove all peeling paint. Repair any damaged areas and sand

areas where paint has chipped to reduce the cratered edges. Since some areas require the addition of new CMU next to existing CMU, a similar system must be followed to obtain the same finished look. New CMU should be block filled so that it resembles the same texture as adjoining blocks.

1. In no case is paint to be applied over existing non-adhering substrate.
- E. All Existing Metal Door and Window Frames: Using a grease cutting detergent, clean all surfaces to be painted. Sand with a fine grit sandpaper, wipe off dust, and apply a metal primer to any bare metal surfaces.

3.4 APPLICATION

- A. Apply paints according to manufacturer's written instructions.
1. Use applicators and techniques suited for paint and substrate indicated.
 2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
- B. Paint exposed surfaces, except where these Specifications indicate that the surface or material is not to be painted or is to remain natural. If an item or a surface is not specifically mentioned, paint the item or surface the same as similar adjacent materials or surfaces. If a color of finish is not indicated, Architect will select from standard colors and finishes available.
1. Painting includes field painting of exposed bare and covered pipes and ducts (including color coding), hangers, exposed steel and iron supports, and surfaces of mechanical and electrical equipment that do not have a factory-applied final finish.
- C. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels.
1. Prefinished items include the following factory-finished components:
 - a. Architectural woodwork.
 - b. Acoustical wall panels.
 - c. Metal lockers.
 - d. Finished mechanical and electrical equipment.
 - e. Light fixtures.
 - f. Prefinished wood doors.
 - g. Prefinished acoustical metal deck.
 - h. Prefinished aluminum storefront.
 2. Concealed surfaces include walls or ceilings in the following generally inaccessible spaces:
 - a. Foundation spaces.
 - b. Furred areas.
 - c. Ceiling plenums.
 - d. Utility tunnels.
 - e. Pipe spaces.
 - f. Duct shafts.
 3. Finished metal surfaces include the following:
 - a. Anodized aluminum.
 - b. Stainless steel.
 - c. Chromium plate.
 - d. Copper and copper alloys.
 - e. Bronze and brass.
 4. Operating parts include moving parts of operating equipment and the following:
 - a. Valve and damper operators.
 - b. Linkages.

- c. Sensing devices.
 - d. Motor and fan shafts.
 - e. Door hardware
- 5. Labels: Do not paint over UL, FMG, or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.
- D. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- E. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
- F. Painting Mechanical and Electrical Work: Paint items exposed in equipment rooms and occupied spaces including, but not limited to, the following:
 - 1. Mechanical Work:
 - a. Uninsulated metal piping.
 - b. Uninsulated plastic piping.
 - c. Pipe hangers and supports.
 - d. Tanks that do not have factory-applied final finishes.
 - e. Visible portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets.
 - f. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
 - g. Mechanical equipment that is indicated to have a factory-primed finish for field painting.
 - 2. Electrical Work:
 - a. Switchgear.
 - b. Panelboards.
 - c. Electrical equipment that is indicated to have a factory-primed finish for field painting.

3.5 FIELD QUALITY CONTROL

- A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure at any time and as often as Owner deems necessary during the period when paints are being applied:
 - 1. Owner will engage the services of a qualified testing agency to sample paint materials being used. Samples of material delivered to Project site will be taken, identified, sealed, and certified in presence of Contractor.
 - 2. Testing agency will perform tests for compliance with product requirements.
 - 3. Owner may direct Contractor to stop applying paints if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying-paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

3.6 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

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

3.7 INTERIOR PAINTING SCHEDULE

- A. Concrete and Masonry (other than concrete unit masonry): Provide the following paint systems over interior concrete and brick masonry substrates:
1. Pre-Catalyzed Waterborne Epoxy Semigloss Finish: Two finish coats over a primer.
 - a. Primer: Interior concrete and masonry primer
 - b. Finish Coats: Interior semigloss pre-catalyzed epoxy
- B. Concrete Unit Masonry: Provide the following finish system over interior concrete unit Masonry:
1. Pre-Catalyzed Waterborne Epoxy Semigloss Finish: Two finish coats over a blockfill/primer.
 - a. Block Filler: At new CMU, provide interior concrete unit masonry block filler.
 - b. Primer: At existing painted CMU, provide primer recommended by manufacturer based on existing conditions.
 - c. Finish Coat: Interior semigloss pre-catalyzed epoxy
- C. Gypsum Board: Provide the following finish systems over interior gypsum board surfaces:
1. Low-Luster Acrylic-Enamel Finish: Two finish coats over a primer.
 - a. Primer: Interior gypsum board primer.
 - b. Finish Coats: Interior low-luster acrylic enamel.
- D. Wood and Hardboard: Provide the following paint finish systems over new interior wood surfaces:
1. Full-Gloss Alkyd-Enamel Finish: Two finish coats over a wood primer.
 - a. Primer: Interior wood primer for full-gloss alkyd-enamel finishes.
 - b. Finish Coats: Interior full-gloss alkyd enamel for wood and metal surfaces.
- E. Ferrous Metal: Provide the following finish systems over ferrous metal, unless indicated otherwise:
1. Full-Gloss Alkyd-Enamel Finish: Two finish coats over a primer.
 - a. Primer: Interior ferrous-metal primer.
 - b. Finish Coats: Interior full-gloss alkyd enamel for wood and metal surfaces.
- F. Ferrous Metal: Provide the following finish systems over ferrous metal roof deck and exposed bar joists:
1. Semi-Gloss Waterborne Acrylic Dryfall (Dryfog) Finish: One finish coat over a primer.
 - a. Primer: Interior ferrous-metal primer for dryfog/dryfall finishes.
 - b. Finish Coats: Interior semigloss waterborne acrylic dryfall/dryfog.
- G. Zinc-Coated Metal: Provide the following finish systems over interior zinc-coated metal surfaces:
1. Full-Gloss Alkyd-Enamel Finish: Two finish coats over a primer.
 - a. Primer: Interior zinc-coated metal primer.
 - b. Finish Coats: Interior full-gloss alkyd enamel for wood and metal surfaces.
- H. Zinc-Coated Metal: Provide the following finish systems over interior zinc-coated (galvanized) roof deck.
1. Semi-Gloss Waterborne Acrylic Dryfall (Dryfog) Finish: One finish coat over a primer.
 - a. Primer: Interior zinc-coated metal primer for dryfall/dryfog finishes.
 - b. Finish Coats: Interior semi-gloss waterborne acrylic dryfall (dryfog).

END OF SECTION 099123