

SECTION 09 90 00  
PAINTING AND COATING

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Surface preparation.

B. Field application of paints, stains, varnishes, and other coatings.

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

- Mechanical and Electrical equipment, and electrical equipment, unless otherwise indicated.
- In finished areas, paint all insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, mechanical equipment, and electrical equipment, unless otherwise indicated.
- Do Not Paint or Finish the Following Items:
  - Items fully factory-finished unless specifically so indicated; materials and products having factory-applied primers are not considered factory finished.
  - Items indicated to receive other finishes.
  - Items indicated to remain unfinished.
  - Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment.
  - Floors, unless specifically so indicated.
  - Glass.
- Concealed pipes, ducts, and conduits.

1.02 RELATED REQUIREMENTS

A. Section 079005 - Joint Sealers: Removal and replacement of joint sealers, backing and bond breakers; joint sealer for stucco crack repair.

B. Section 092400 - Portland Cement Plastering: Patching and repair of damaged or defective cement plaster work.

1.03 REFERENCE STANDARDS

A. General:

1. For requirements relating to referenced standards, see Section 014219 - Reference Standards..

B. American Society for Testing and Materials (ASTM)

1. ASTM D235 -- Standard Specification for Mineral Spirits (Petroleum Spirits) (Hydrocarbon Dry Cleaning Solvent).

2. ASTM D522 -- Standard Test Method for Mandrel Bend Test of Attached Organic Coatings.

3. ASTM D562 -- Standard Test Method for Consistency of Paints Measuring Krebs Unit (KU) Viscosity Using a Stormer-Type Viscometer.

4. ASTM D1308 -- Standard Test Method for Effect of Household Chemicals on M.C. Harry and Associates, Inc. PAINTING AND COATING Architecture/Engineering/Planning Rohde Building - Phase 1 PAINTING AND COATING DMS Project No. \_\_\_\_ 099000 - 2 of 12

Clear and Pigmented Organic Finishes.

5. ASTM D1475 -- Standard Test Method For Density of Liquid Coatings, Inks, and Related Products.

6. ASTM D3273 -- Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.

7. ASTM D3359 -- Standard Test Methods for Measuring Adhesion by Tape Test.

8. ASTM D3960 -- Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings.

9. ASTM D4214 -- Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films

10. ASTM D5201 -- Standard Practice for Calculating Formulation Physical Constants of Paints and Coatings.

11. ASTM D6904 -- Standard Practice for Resistance to Wind-Driven Rain for Exterior Coatings Applied on Masonry.

C. Florida Building Code (FBC):

1. FBC-B -- Florida Building Code, Building.

D. Master Painters Institute, Master Painters and Decorators Association (MPI):

1. MPI (APL) -- Master Painters Institute Approved Products List.

2. MPI (AFSM) -- Master Painters Institute Architectural Painting Specification Manual.

E. The Society for Protective Coatings (SSPC):

1. SSPC (PM1) -- Good Painting Practice: SSPC Painting Manual, Vol. 1.

2. SSPC-SP 1 -- Solvent Cleaning.

3. SSPC-SP 2 -- Hand Tool Cleaning.

4. SSPC-SP 3 -- Power Tool Cleaning.

F. U.S. Code of Federal Regulations (CFR):

1. U.S. Environmental Protection Agency:

a. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings.

1.04 SUBMITTALS

A. General:

1. For submittal procedures, see General Conditions, Supplementary Conditions, and Section 013000 - Administrative Requirements.

B. Product Data: Provide complete list of all 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. MPI product number (e.g. MPI #47).

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

4. Manufacturer's Instructions: Indicate special surface preparation procedures and substrate conditions requiring special attention.M.C. Harry and Associates, Inc.

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C. Samples:

1. Selection Samples: Submit three sets of paper "draw down" samples, illustrating range of colors available for each top coat product specified.

a. Where sheen is specified, submit samples in only that sheen.

2. Verification Samples: Submit two painted samples, illustrating selected colors and textures for each color and system selected with specified coats cascaded.

a. Submit on aluminum sheet, 12 x 12 inch (300 x 300 mm) in size.

D. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.

1. Extra Paint and Coatings: 1 gallon (4 L) of each color, store where directed.

2. Label each container with color in addition to the manufacturer's label.

1.05 QUALITY ASSURANCE

A. Applicator Qualifications: Company specializing in performing the type of work specified with minimum five years experience and approved by manufacturer.

1.06 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 (7 degrees C) and a maximum of 90 degrees F (32 degrees C), in ventilated area, and as required by manufacturer's instructions.

1.07 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 exterior coatings during rain or when relative humidity is outside the humidity ranges required by the paint product manufacturer.

D. Provide lighting level of 80 ft candles (860 lux) measured mid-height at substrate surface.

1.09 WARRANTY

A. Labor and Material Warranty: Submit manufacturer's ten (10) year labor and material warranty for specified systems. Approval of warranty period and confirmation of system compatibility with substrates and joint sealants is required prior to system application.

PART 2 - PRODUCTS

2.01 MANUFACTURERSM.C. Harry and Associates, Inc. PAINTING AND COATING Architecture/Engineering/Planning Rohde Building - Phase 1

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A. Provide all paint and coating products used in any individual system from the same manufacturer; no exceptions.

B. Provide all paint and coating products from the same manufacturer.

C. In the event that a single manufacturer cannot provide all specified products, minor exceptions will be permitted provided approval by Architect is obtained using the specified procedures for substitutions.

C. Paints:

1. Benjamin Moore & Co. www.benjaminmoore.com.

2. PPG Architectural Finishes, Inc. www.ppg.com

3. Sherwin-Williams Company. www.sherwin-williams.com.

D. Primers and Block Fillers: Same manufacturer as top coats.

2.02 PAINTS AND COATINGS - GENERAL

A. Material Compatibility: Provide block fillers, primers, undercoaters, 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. Patching materials used in conjunction with coating system shall be compatible with such coating system.

C. Paints and Coatings: Ready mixed, unless intended to be a field-catalyzed coating.

1. Where MPI paint numbers are specified, provide products listed in MPI (APL) for specified MPI categories, except as otherwise indicated.

2. Provide Premium Grade system (2 top coats) as defined in MPI (AFSM), except as otherwise indicated.

a. Where a specified paint system does not have a Premium Grade, provide Custom Grade system.

3. Provide paints and coatings 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.

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

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

C. Primers: Where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer.

D. Volatile Organic Compound (VOC) Content:

1. Provide coatings that comply with the most stringent requirements specified in the following:

a. 40 CFR 59, Subpart D-National Volatile Organic Compound Emission Standards for Architectural Coatings.M.C. Harry and Associates, Inc.

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2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site, or other method acceptable to authorities having jurisdiction.

E. Flammability: Comply with applicable code for surface burning characteristics.

F. Sheens: Provide the sheens specified; where sheen is not specified, sheen will be selected later by Architect from the manufacturer's full line.

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

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

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

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

2.03 PAINT SYSTEMS - EXTERIOR

A. Paint CE-OP-3L - Concrete / Cement Plaster (Stucco), Opaque, Latex, 3 Coat:

1. Preparation as specified by paint manufacturer.

2. Two top coats and one coat primer.

3. Top Coat(s): MPI #10 (Latex, Exterior, Flat, MPI Gloss Level 1) or MPI #15 (Latex, Exterior, Low Sheen, MPI Gloss Level 3-4), as required to match sheen level of existing coating to remain, and meeting the following criteria:

a. Vehicle Type: 100-percent acrylic latex.

b. Product: Benjamin Moore ben® Premium Waterborne Exterior Paint, or equal.

4. Primer(s): As recommended by manufacturer of top coat product.

B. Paint ME-OP-3L - Ferrous Metals, Latex, 3 Coat:

1. Preparation as specified by paint manufacturer.

2. Two top coats and one coat primer.

3. Top Coat(s): MPI #311 (Latex, Exterior, High Performance Architectural, Semi-Gloss, MPI Gloss Level 5), meeting the following criteria:

a. Vehicle Type: 100-percent acrylic latex.

b. Midew Resistance (ASTM D3273): Pass; no growth.

c. Flexibility (ASTM D522): Pass; no cracking.

d. Alkali Resistance (ASTM D1308): Pass.

e. Wind Driven Rain Resistance (ASTM D6904): Pass.

f. Product: Benjamin Moore Regal® Select Exterior High Build, or equal.

4. Primer(s): As recommended by manufacturer of top coat product.

C. Paint MgE-OP-3L - Galvanized Metals, Latex, 3 Coat:

1. Preparation as specified by paint manufacturer.

2. Two top coats and one coat primer.

3. Top Coat(s): MPI #311 (Latex, Exterior, Gloss, MPI Gloss Level 6), meeting the following criteria:

a. Vehicle Type: 100-percent acrylic latex.

b. Midew Resistance (ASTM D3273): Pass; no growth.M.C. Harry and Associates, Inc. PAINTING AND COATING Architecture/Engineering/Planning Rohde Building - Phase 1 PAINTING AND COATING DMS Project No. \_\_\_\_ 099000 - 6 of 12

c. Flexibility (ASTM D522): Pass; no cracking.

d. Alkali Resistance (ASTM D1308): Pass.

e. Wind Driven Rain Resistance (ASTM D6904): Pass.

f. Product: Benjamin Moore Regal® Select Exterior High Build, or equal.

4. Primer(s): As recommended by manufacturer of top coat product.

2.04 PAINT SYSTEMS - INTERIOR

A. Paint CI-OP-3L - Concrete / Concrete Masonry / Cement Plaster (Stucco), Latex, 3 Coat:

1. Preparation as specified by paint manufacturer.

2. Two top coats and one coat primer.

3. Top Coat(s): MPI #140 (Latex, Interior, High Performance Architectural, MPI Gloss Level 4), meeting the following criteria:

a. Vehicle Type: 100-percent acrylic latex.

b. Product: Benjamin Moore Regal® Select Premium Interior Paint & Primer Pearl Finish, or equal.

4. Primer(s): As recommended by manufacturer of top coat product.

B. Paint MI-OP-3L - Ferrous Metals, Latex, 3 Coat:

1. Preparation as specified by paint manufacturer.

2. Two top coats and one coat primer.

3. Top Coat(s): MPI #140 (Latex, Interior, High Performance Architectural, MPI Gloss Level 4), meeting the following criteria:

a. Vehicle Type: 100-percent acrylic latex.

b. Product: Benjamin Moore Regal® Select Premium Interior Paint & Primer Pearl Finish, or equal.

4. Primer(s): As recommended by manufacturer of top coat product.

C. Paint Mgl-OP-3L - Galvanized Metals, Latex, 3 Coat:

1. Preparation as specified by paint manufacturer.

2. Two top coats and one coat primer.

3. Top Coat(s): MPI #140 (Latex, Interior, High Performance Architectural, MPI Gloss Level 4), meeting the following criteria:

a. Vehicle Type: 100-percent acrylic latex.

b. Product: Benjamin Moore Regal® Select Premium Interior Paint & Primer Pearl Finish, or equal.

D. Paint I-OP-FL - Opaque Finish on Concrete Floors.

1. Preparation as specified by paint manufacturer.

2. Two top coats and one coat primer; or if self-priming, then two top coats only.

3. Top Coat(s): MPI #60 (Floor Paint, Latex, Low Gloss), meeting the following criteria:

a. Vehicle Type: Epoxy-modified acrylic latex.

b. Product: Benjamin Moore Floor & Patio® Latex Floor & Patio Low Sheen Enamel, or equal.

4. Primer(s): As recommended by manufacturer of top coats.M.C. Harry and Associates, Inc. PAINTING AND COATING Architecture/Engineering/Planning Rohde Building - Phase 1 PAINTING AND COATING DMS Project No. \_\_\_\_ 099000 - 7 of 12

2.05 ACCESSORY MATERIALS

A. Accessory Materials: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required to achieve the finishes specified whether specifically indicated or not; commercial quality.

B. Patching Materials (for repairing cracks and other defects in exterior cement plaster/stucco):

1. Patching Material Type 1 (for stucco hairline cracks caused by plastic or drying shrinkage): Type suitable for application, as recommended by coating manufacturer.

2. Patching Material Type 2 (for stucco cracks hairline to 1/4-inch in width): Water-based, acrylic elastomeric crack filler for repairing cracks.

a. Performance Characteristics:

(1) Tensile Strength (ASTM D412): 100 psi (0.7 MPa).

(2) Ultimate Elongation at Break (ASTM D412): 275 percent.

b. Product:

(1) Smooth: "Sonocoat Acrylic Patching Compound 748" by BASF.

(2) Textured: "Sonocoat Acrylic Patching Compound 746T" by BASF.

3. Patching Material Type 3 (for patching dynamic cracks more than 1/4-inch in width): Joint Sealant Type S-5; for additional requirements, refer to Section 079005.

4. Patching Material Type 4 (for repair/replacement of small areas of damaged cement plaster/stucco): Repair Mortar; for additional requirements, refer to Section 092400 - Portland Cement Plastering.

5. Patching Material Type 5 (for repair/replacement of large areas of damaged or delaminated cement plaster/stucco): Cement plaster (stucco); for additional requirements, refer to Section 092400 - Portland Cement Plastering.

6. Primer / Surface Conditioner: As recommended by Patching Material manufacturer.

B. Fastener Head Cover Material: Use Patching Material Type 2.

PART 3 - EXECUTION

3.01 EXAMINATION

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

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

1. Patched/repared cement plaster/stucco substrates must be fully cured in accordance with recommendations of paint/coating manufacturer.

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

D. Measure moisture content of surfaces using an electronic moisture meter.

1. Do not apply finishes unless moisture content of surfaces is within acceptable tolerances recommended by the coating manufacturer

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E. Check adhesion of old paint using ASTM D3359, measuring adhesion by Tape Method A.

3.02 PREPARATION

A. General:

1. Clean surfaces thoroughly and correct defects prior to coating application.

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

3. Remove or repair existing coatings that exhibit surface defects.

4. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.

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

6. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

7. Concrete and Unit Masonry Surfaces to be Painted:

a. Remove dirt, loose mortar, scale, salt or alkali powder, and other foreign matter.

b. Remove oil and grease with a solution of tri-sodium phosphate; rinse well and allow to dry.

c. Remove stains caused by weathering of corroding metals with a solution of sodium metasilicate after thoroughly wetting with water. Allow to dry.

8. Cement Plaster (Stucco) Surfaces to be Painted:

a. Fill hairline cracks, small holes, and imperfections with latex patching plaster. Make smooth and flush with adjacent surfaces.

b. Wash and neutralize high alkali surfaces.

9. Asphalt, Creosote, or Bituminous Surfaces to be Painted:

a. Remove foreign particles to permit adhesion of finishing materials.

b. Apply latex based sealer or primer.

10. Insulated Coverings to be Painted: Remove dirt, grease, and oil from canvas and cotton.

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

12. Galvanized Surfaces to be Painted: Remove surface contamination and oils and wash with solvent. Apply coat of wetting primer.

13. Corroded Steel and Iron Surfaces to be Painted: Prepare using at least SSPC-SP 2 or SSPC-SP 3, followed by SSPC-SP 1.

14. Uncoated Uncoated Steel and Iron Surfaces to be Painted:

a. Remove grease, mill scale, weld spatter, dirt, and rust.

b. Where heavy coatings of scale are evident, remove by hand or power tool wire brushing or sandblasting; clean by washing with solvent.

c. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned.

4. Prime paint entire surface; spot prime after repairs.

15. Shop-Primed Steel Surfaces to be Finish Painted:

a. Sand and scrape to remove loose primer and rust.

a. Feather edges to make touch-up coatings inconspicuous. M.C. Harry and Associates, Inc. PAINTING AND COATING Architecture/Engineering/Planning Rohde Building - Phase 1 PAINTING AND COATING DMS Project No. \_\_\_\_ 099000 - 9 of 12

b. Clean surface with solvent.

c. Prime bare steel surfaces.

d. Re-prime entire shop-primed item.

B. Additional Requirements for Surfaces with Existing Coatings:

1. Before application of new coatings