SECTION 09 91 13 - 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. Section includes but is not limited to:

1. Surface preparation and the application of paint systems on exterior and interior substrates.

a. Fiber cement, siding soffits and trim.
b. Gypsum board.
c. Pre-primed metal flashing
d. Wood trim
e. Pre-primed fiberglass doors
f. Metal fabrications (not included in high performance coatings)
g. Pressure treated wood

B. Related Requirements:

1. Section 05 52 13 “Pipe and Tube Railings”
2. Section 09 96 50 “Powder Coating”

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 D 523.

B. Gloss Level 2 (Velvet): Not more than 10 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523

C. Gloss Level 3 (Egg Shell): 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.

D. Gloss Level 4 (Satin): 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.

E. Gloss Level 5 (Semi-Gloss): 35 to 70 units at 60 degrees, according to ASTM D 523.

F. Gloss Level 6 (Gloss): 70 to 85 units at 60 degrees, according to ASTM D 523.

G. Gloss Level 7 (High Gloss): More than 85 units at 60 degrees, according to ASTM D 523.

1.4 SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.

B. Samples: For each type of paint system and each color and gloss of topcoat.

1. Submit Samples on rigid backing, 8 inches (200 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.

C. Product List: For each product indicated, include the following:

1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.
2. Printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
3. VOC content.

D. Warranty: Submit sample copy of proposed warranty stating obligations, remedies, limitations and exclusions.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Paint: 5 percent, but not less than 1 gal. (3.8 L) of each material and color applied.

1.6 CLOSEOUT SUBMITTALS

A. Color Schedule: Identity locations, colors, sheens and manufacturers. For inclusion in Project Record Document Manual.

1.7 QUALITY ASSURANCE

A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Architect will select one surface to represent surfaces and conditions for application of each paint system specified in Part 3.

a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft. (9 sq. m).
b. Other Items: Architect will designate items or areas required.

2. Final approval of color selections will be based on mockups.

   a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.

3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

B. Manufacturer's Qualifications and Requirements:

1. A technical representative of paint manufactuer shall periodically observe work in progress.

2. Technical representative shall at a minimum shall be present to observe surface preparation, general application procedures and final completion and submit documentation of manufacturer's final acceptance and warranty.

3. Work shall not proceed until such observations have been made and conditions have been approved in writing by the manufactuer.

4. Technical representative shall perform a punch list inspection upon substantial completion of the project indicating all items in need of attention, including conformance to manfacturer's published installation instructions and these contract documents; provide documentation.

C. Source limitations: obtain primary products from a single manufactuer. Provide secondary products as specified or as recommended and approved by the primary manufacturer.

1.8 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.

1.9 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 in snow, rain, fog, or mist; 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.

1.10 WARRANTY

A. Special Warranty: Standard form in which manufacturer agrees to replace exterior paint products that fail under normal wear within specified warranty period.

1. Failures include: fading, chipping, cracking peeling and blistering.
2. Warranty period: 15 years.

PART 2 - PRODUCTS

2.1 PRODUCTS

A. Products: Subject to compliance with requirements, provide one of the following systems for substrates listed. Provide all coating products by same manufacturer unless otherwise noted or approved by Architect.

2.2 PAINT, GENERAL

A. Material Compatibility:

1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

B. VOC Content: Products shall comply with VOC limits of authorities having jurisdiction and, for interior paints and coatings applied at Project site, the following VOC limits, exclusive of colorants added to a tint base, when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

1. Flat Paints and Coatings: 50 g/L. (Including colorant added at point-of-sale: 100 g/L)
2. Nonflat Paints and Coatings: 50 g/L.(Including colorant added at point-of-sale 100 g/L)
3. Dry-Fog Coatings: 400 g/L.
4. Primers, Sealers, and Undercoaters: 100 g/L.
5. Anticorrosive and Antirust Paints Applied to Ferrous Metals: 250 g/L. (Including colorant added at point-of-sale: 250 g/L)
6. Zinc-Rich Industrial Maintenance Primers: 340 g/L.
7. Pretreatment Wash Primers: 420 g/L.
8. Floor Coatings: 100 g/L.
9. Shellacs, Clear: 730 g/L.
10. Shellacs, Pigmented: 550 g/L.
11. Stains: 250g/L.

C. Low-Emitting Materials: Interior paints and coatings shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

D. Colors: As selected by Architect from manufacturer's full range.

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 the Work.

B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:

1. Concrete: 12 percent.
2. Masonry (Clay and CMU): 12 percent.
3. Wood: 15 percent. (including pressure treated wood)
4. Gypsum Board: 12 percent.

C. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.

D. Spray-Textured Ceiling Substrates: Verify that surfaces are dry.

E. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

F. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Application of coating indicates acceptance of surfaces and conditions.

G. Pressure treated wood: Verify the moisture content is within acceptable limits.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates and paint systems indicated.

B. Remove hardware, covers, plates, and similar items already in place that are removable and 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.

C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.

1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat 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. Existing Paint: Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease.

1. Perform existing paint adhesion test per ASTM D3359, Adhesion by Tape Test, Method A.

F. Steel Substrates:

1. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.

2. Galvanized-Steel Substrates: Remove grease and oil residue from galvanized metal by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied coatings. Clean using methods recommended in writing by paint manufacturer but not less than the following:

a. ASTM D-6386-10 “Specification for Preparation of Surface for Painting Over Galvanizing”
b. Abrasive blast to an SSPC-SP10 near white blast.

3. Bare Steel - If steel is not galvanized or shop primed, remove rust, loose mill scale and prepare surface as noted below. Clean using methods recommended in writing by paint manufacturer but not less than the following:

a. SSPC-SP1, “Solvent Cleaning” Remove all oil and grease from surface.
b. SSPC-SP11, "Power Tool Cleaning to bare Metal”

G. Aluminum Substrates: Remove loose surface oxidation.

H. Wood Substrates:

1. Scrape and clean knots. Before applying primer, apply coat of knot sealer recommended in writing by topcoat manufacturer for exterior use in paint system indicated.
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.
5. Prepare weathered surfaces according to MPI recommended procedures until a sound surface is obtained (loose or damaged wood fibers removed).

3.3 APPLICATION

A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Manual."

1. Use applicators and techniques suited for paint and substrate indicated.

2. Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.
3. Paint both sides and edges of exterior doors and entire exposed surface of exterior door frames.
4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.

B. Tint undercoats same color as topcoat, but tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Provide sufficient difference in shade of undercoats to distinguish each separate coat.

C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.

D. 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.

E. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:

1. Paint the following work where exposed to view:

a. Equipment, including panelboards and switch gear.
b. Uninsulated metal piping.
c. Uninsulated plastic piping.
d. Pipe hangers and supports.
e. Metal conduit.
f. Plastic conduit.

F. Exterior Soffits and Underside of Roof Eaves: Paint exterior soffits and the underside of roof eaves to match the trim color unless otherwise noted.

G. Apply stains and sealers according to manufacturer’s written instructions. Use applicators and techniques best suited for substrate and type of material being applied.

H. Vapor retarder paint, apply at the minimum dry film thickness indicated or per manfacturer’s instructions to achieve a Class II perm rating of greater than 0.1 and less than or equal to 1.0, (vapor semi-impermeable). Apply at interior of exterior walls and ceilings.

I. Dry film (dft) thicknesses indicated are per coat.

J. Do not apply coatings to weathered surfaces.

3.4 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.

3.5 EXTERIOR PAINTING

A. Substrates: Wood, Composite Wood, Fiber Cement, Exterior Gypsum Board – Latex, Exterior; Satin or Velvet at field areas; Semi-gloss at trim.
   1. Miller:
      a. Prime Coat: Acri-Lite Primer, 1.5 mils dft.
      b. Second Coat: Acri-Lite, 1.5 mils dft
      c. Finish Coat: Acri-Lite, 1.5 mils dft
   2. Sherwin Williams:
      a. Prime Coat: Sherwin Williams: A100 Ext. Latex Wood Primer, 1.4 mils dft
      b. Second Coat:
         1) Solo, A75, 1.8 mils dft.
         2) Solo Int/Ext 100% Acrylic, 1.8 mils dft.
      c. Finish Coat:
         1) Solo, A75, 1.8 mils dft.
         2) Solo Int/Ext 100% Acrylic, 1.8 mils dft.
   3. Coronado:
      a. Primer: Grip ‘n’ Seal Latex Stain Blocker 116, 1.6 mils dft
      b. Second Coat:
         1) Supreme Acrylic Latex House Paint 408 Line, 1.2-1.5 mils dft
         2) Supreme Acrylic Latex House Paint 12 Line, 1.2-1.6 mils dft
      c. Finish Coat:
         1) Supreme Acrylic Latex House Paint 408 Line, 1.2-1.5 mils dft
         2) Supreme Acrylic Latex House Paint 12 Line, 1.2-1.6 mils dft
   4. Benjamin Moore:
      a. Prime Coat: Super Spec 166 100% Acrylic Busan primer, 1.2 mils dft.
      b. Second Coat:
         1) Ultra Spec EXT Satin N448, 1.5 mils dft
         2) Ultra Spec EXT Gloss (MPI) Finish 1.5 mil dft.
      c. Finish Coat:
         1) Ultra Spec EXT Satin N448, 1.5 mils dft
         2) Ultra Spec EXT Gloss (MPI) Finish 1.5 mil dft.

A. Substrates: Pre-Primed Metal, Pre-primed Fiberglass – Latex Exterior, Satin
   1. Miller:
      a. Prime Coat: Pre-primed
      b. Second Coat: Acrimetal, 1.5 mils dft
      c. Finish Coat: Acrimetal, 1.5 mils dft
   2. Sherwin Williams:
      a. Prime Coat: Pre-primed.

b. Second Coat: Solo Int/Ext 100% Acrylic, 1.8 mils dft.
c. Finish Coat: Solo Int/Ext 100% Acrylic, 1.8 mils dft.

3. Coronado:
   a. Primer: Pre-primed.
   b. Second Coat: Corotech V331 Acrylic DTM Semi-Gloss, 2.0-2.2
   c. Finish Coat: Corotech V331 Acrylic DTM Semi-Gloss, 2.0-2.2
4. Benjamin Moore:
   a. Prime Coat: Pre-primed.
   b. Second Coat: Super Spec HP Acrylic DTM P28, 1.5-2.5 mils dft.
   c. Finish Coat: Coat:Super Spec HP Acrylic DTM P28, 1.5-2.5 mils dft.

B. Substrate: Bare Steel -Latex exterior, satin.
1. Powder Coating: reference Section 09 96 50 “Powder Coating”

C. Substrate: Existing Painted Metal - Epoxy and Acrylic, Semi-gloss.
1. Miller:
   a. Primer: Manufacturer’s Epoxy penetrating sealer.
   b. Acrimetal DTM. 1.5 mils dft
   c. Acrimetal DTM. 1.5 mils dft
2. Sherwin Williams:
   a. Primer: Manufacturer’s epoxy penetrating sealer.
   b. Pro Industrial Zero VOC Acrylic, 3.0 mils dft.
   c. Pro Industrial Zero VOC Acrylic, 3.0 mils dft.
3. Coronado:
   a. Primer: Manufacturer’s epoxy penetrating sealer.
   b. First Coat: Corotech Acrylic DTM, 2.0-2.2 mils dft.
   c. Finish Coat: Corotech Acrylic DTM, 2.0-2.2 mils dft.
4. Benjamin Moore:
   a. Primer: Manufacturer’s epoxy penetrating sealer.
   b. First Coat: Super Spec HP Acrylic DTM, 1.5-2.5 mils dft.
   c. Finish Coat: Super Spec HP Acrylic DTM, 1.5-2.5 mils dft.
5. Rodda:
   a. Primer: Cloverdale Preptech Epoxy Penetrating Sealer.
   b. First Coat: Multi Master DTM, 2.0 mils dft.
   c. Finish Coat: Multi Master DTM, 2.0 mils dft.

D. Substrate: Exterior Pressure Treated Wood – Waterborne Exterior Stain. (Noted as stained)
1. Miller:
   a. First Coat: Storm Category 4, Acrylic Stain. #412
   b. Second Coat: Storm Category 4, Acrylic Stain. #412
2. Sherwin Williams:
   a. First Coat: WoodScapes House Stain, Ext. Acrylic Solid Color A15 Series
   b. Second Coat:WoodScapes House Stain, Ext. Acrylic Solid Color A15 Series
3. Benjamin Moore:
   a. First Coat: Arborcoat, Solid Color 640
   b. Second Coat: Arborcoat, Solid Color 640

3.6 INTERIOR PAINTING SCHEDULE

A. Substrate: Interior Gypsum Board - Latex, Interior, Eggshell.
   1. Miller:
      a. Prime Coat: Acri-Lite Primer, 1.5 mil dft.
      b. First Coat: Acro Pure Eggshell 4650, 1.5 mils dft.
      c. Second Coat: Acro Pure Eggshell 4650, 1.5 mils dft.
   2. Sherwin Williams:
      a. Prime Coat: ProMar Zero VOC B28W02600.
      b. First Coat: ProMar 200 Zero VOC Eggshell B24W02651, 1.6 mils dft.
      c. Second Coat: ProMar 200 Zero VOC Eggshell B24W02651, 1.6 mils dft.
   3. Coronado:
      a. Prime Coat: Super Kote 5000 Interior Latex Primer, 1.1-1.5 mils dft.
      b. First Coat: Super Kote 5000 Eggshell-30, 1.3-1.7 mils dft
      c. Second Coat: Super Kote 5000 Eggshell-30, 1.3-1.7 mils dft
   4. Benjamin Moore:
      a. Primer: Super Spec 253 Latex Primer Sealer and Enamel Undercoater, 1.1 mils dft.
      b. First Coat: Ultra Spec 500 N538, 1.8 mils dft.
      c. Second Coat: Ultra Spec 500 N538, 1.8 mils dft.

B. Substrate: Interior Wood Trim - Latex, Interior, Semi gloss.
   1. Miller:
      a. Primer Coat: Acri-Lite Primer, 1.5 mil dft
      b. First Coat: Evolution, 1.5 mils dft
      c. Second Coat: Evolution, 1.5 mils dft
   2. Sherwin Williams:
      a. Primer Coat: PrepRite Multi-Purpose Primer B51W8020/B51W8023, 1.4 mils dft.
      b. First Coat: Pro Industrial Zero VOC Acrylic, B66 Series, 3.0 mils dft.
      c. Second Coat: Pro Industrial Zero VOC Acrylic, B66 Series, 3.0 mils dft.
   3. Coronado:
      a. Prime Coat: Super Kote 5000 Acrylic Latex Primer 40 , 1.1-1.5 mils dft.
      b. First Coat: Super Kote 5000 Acrylic Latex Primer 40 , 1.1-1.5 mils dft.
      c. Second Coat: Super Kote 5000 Acrylic Latex Primer 40 , 1.1-1.5 mils dft.
   4. Benjamin Moore:
      a. Prime Coat: Ultra Spec 500 Interior Primer N534, 1.8 mils dft.
      b. First Coat: EcoSpec WB Semi-Gloss N376, 1.5 mils dft
      c. Second Coat: EcoSpec WB Semi-Gloss N376, 1.5 mils dft

C. Substrate: Interior Ferrous Metal - Latex, Interior, Semi-gloss.
   1. Miller:
      a. Prime Coat: Manufacturer’s recommended.
      b. First Coat: Acrimetal. 1.5 mils dft
      c. Second Coat: Acrimetal. 1.5 mils dft
   2. Sherwin Williams:
      a. Prime Coat: Pro-Cryl Universal Primer B66W00310, or DTM Bonding Primer, 2.0 mils dft.
      b. First Coat: Pro Industrial Zero VOC Acrylic Semi-Gloss, B66 Series, 3.0 mils dft.

c. Second Coat: Pro Industrial Zero VOC Acrylic Semi-Gloss, B66 Series, 3.0 mils dft.

3. Coronado:
   a. Prime Coat: V110 Acrylic Metal Primer, 1.5-2.0 mils dft.
   b. First Coat: V331 Acrylic DTM, 2.0-2.2 mils dft.
   c. Second Coat: V331 Acrylic DTM, 2.0-2.2 mils dft.

4. Benjamin Moore:
   a. Prime Coat: P04 Super Spec HP Acrylic Metal Primer, 1.7-2.3 mils dft
   b. First Coat: Super Spec HP Acrylic DTM P29, 1.5-2.5 mils dft.
   c. Second Coat: Super Spec HP Acrylic DTM P29, 1.5-2.5 mils dft.

END OF SECTION 09 91 13