

SECTION 09900 PAINTS AND COATINGS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Section includes specifications for paints and coatings.

1.02 DEFINITIONS

- A. Paint: As used herein, means coating systems materials including primers, emulsions, epoxies, enamels, sealers, fillers, and other applied materials whether used as primer, intermediate, or finish coats.

1.03 EXCLUDED WORK

- A. Do not paint metal surfaces of anodized aluminum, stainless steel, and similar finished materials, unless otherwise noted on the Contract Documents.
- B. Do not paint over required labels or equipment identification, performance rating, name, or nomenclature plates.
- C. Do not paint glass, concrete with sealer, nor other finished surfaces, unless otherwise noted or on the Contract Documents.

1.04 SUBMITTALS

- A. Product Data: a complete list of materials proposed for use, together with manufacturer product specifications.
- B. Samples:
 - 1. Five 8.5 inches by 11 inches samples of each color and each gloss for each material on which the finish is specified to be applied for review and approval of the Engineer.
 - 2. Revise and resubmit each sample until the required gloss, color, and texture is achieved. Samples approved by the Engineer will become standards of color and finish for accepting or rejecting the work of this Section.
 - 3. Final approval of gloss, color, and texture shall be made through approval of mockups, if required by the Engineer.
- C. Certificates of Compliance: Certificates of compliance from manufacturer certifying that proposed materials comply with the specified requirements and are the manufacturer's best-quality grade materials.
- D. Manufacturers' Review: Record of paint manufacturer's review as specified herein.

1.05 QUALITY ASSURANCE

- A. Regulations: In case of conflict between regulatory requirements and specified materials, submit alternative materials to the Engineer for approval.
- B. Manufacturer's Standards: Comply with manufacturer's recommendations and standards
- C. Personnel: Use adequate number of skilled workers who are thoroughly trained and experienced in the necessary crafts; and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
- D. Paint Coordination:
 - 1. Provide finish coats that are compatible with the prime coats actually used.
 - 2. Review the Contract Documents, verify the prime coats to be used, and ensure compatibility of the total coating system for the various substrata.
- E. Paint Manufacturer's Review: Before purchasing paint materials, review the proposed paint systems, materials, and substrates with qualified representatives of the proposed paint product manufacturers. Obtain manufacturer's concurrence of the proposed paint systems, or any recommended changes thereto, before providing product data, samples, and mock-ups specified herein.
- F. Mockups:
 - 1. Do not apply final coats until the colors and textures have been approved by the Engineer. To accomplish this, if requested by the Engineer, paint a sample panel of approximately 24 square feet of the colors and textures selected on every type of surface to be painted. Notify the Engineer at least three days in advance of when sample panels will be ready for review and approval.
 - 2. For interior finishes, permanent lighting shall be installed and in operation in the rooms or areas where the sample panels have been painted. Temporary lights at the same level and of the same type, intensity, and color as the permanent lights will be permitted for viewing of sample panels.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to job in original packages and containers bearing name of manufacturer; containers shall be new and unopened and shall clearly show manufacturer's best-grade certification on each container; store appropriately and provide fire protection.
- B. When materials are not in use, store in hermetically covered containers.

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

1.07 SITE CONDITIONS

- A. Environmental conditions specified herein are minimum parameters. Comply with manufacturer's requirements.
- B. Do not apply solvent-thinned paints when the temperature of surfaces to be painted and the surrounding air temperatures are below 45 degrees F unless otherwise permitted by the manufacturer's published instructions.
- C. Weather Conditions:
 - 1. Do not apply paint when the relative humidity exceeds 85 percent; or to damp or wet surfaces, unless otherwise permitted by the manufacturer's published instructions.
 - 2. Do not apply paint when dust is blowing.

PART 2 - PRODUCTS

2.01 PAINT MATERIALS AND COLORS

- A. Quality: Best quality grade of specified types as regularly manufactured by recognized paint and varnish manufacturers; materials not bearing manufacturer's identification as standard best grade product of regular line are not acceptable.
- B. Undercoats and Thinners:
 - 1. Provide undercoat paint produced by the same manufacturer as the finish coat.
 - 2. Use only the thinners recommended by the paint manufacturer and use only to the recommended limits.
 - 3. Undercoat, finish coat, thinner material, and related elements shall be components of a unified paint finish system.

2.02 MATERIAL LIST

- A. Metal Treatment and Primers:
 - 1. Rust Inhibitive Primer: Compatible formulation with shop applied primer and subsequent coats.
- B. Exterior Prime Coats
 - 1. Exterior Ferrous-Metal Primer: Factory-formulated rust-inhibitive metal primer for exterior application.

- a. ICI Dulux Paints; 4020-XXXX Devflex DTM Flat Interior/Exterior Waterborne Primer & Finish: Applied at a dry film thickness 2.2 mils minimum.
 - b. Kelly-Moore; 1725 Kel-Guard Acrylic Metal Primer: Applied at a dry film thickness of 1.5 to 2.0 mils.
 - c. Kelly-Moore; 5725 DTM-Acrylic Metal Primer: Applied at a dry film thickness 1.5 to 2.0 mils, under full-gloss acrylic-enamel coatings
 - d. Sherwin-Williams; Pro-Cryl Universal Metal Primer B66: Applied at a dry film thickness 3.0 mils minimum.
 - e. Or equal.
2. Exterior Galvanized Metal Primer: Factory-formulated galvanized metal primer for exterior application.
 - a. ICI Dulux Paints; 4020-XXXX Devflex DTM Flat Interior/Exterior Waterborne Primer & Finish: Applied at a dry film thickness 2.2 mils minimum.
 - b. Kelly-Moore; 1725 Kel-Guard Acrylic Metal Primer: Applied at a dry film thickness of 1.5 to 2.0 mils.
 - c. Sherwin-Williams; Pro-Cryl Universal Metal Primer B66: Applied at a dry film thickness 2.0 mils minimum, under full-gloss acrylic-enamel finishes.
 - d. Or Engineer approved equal.
- C. Exterior Finish Coats
1. Exterior Semigloss Acrylic Enamel: Factory-formulated semigloss waterborne acrylic-latex enamel for exterior application.
 2. ICI Dulux Paints; 4216 Lifemaster Pro High Performance Waterborne Acrylic Semi-Gloss Finish: Applied at a dry film thickness 1.3 mils minimum.
 3. Kelly-Moore; 1250 Acry-Lustre Exterior Semi-Gloss Acrylic Finish: Applied at a dry film thickness 1.3 mils minimum.
 4. Sherwin-Williams; A-100 Latex Gloss A8 Series: Applied at a dry film thickness 1.3 mils minimum.
 5. Or Engineer approved equal.

- D. Heavy Duty Exterior Prime Coats: Exterior Metal Primer for Urethane: Factory-formulated metal primer for exterior application. For shop primed or galvanized ferrous metal:
 - 1. Ameron Amercoat 240, 4-12 mils dry film thickness, each coat.
 - 2. ICI Dulux Paints: 203, Devan Universal Epoxy Primer, 2 to 4 mils dry film thickness, each coat.
 - 3. Sherwin-Williams: Pro-Cryl Universal Metal Primer B66: 3 – 4 mils dry film thickness, each coat.
 - 4. Or Engineer approved equal.
- E. Heavy Duty Exterior Finish Coats: Exterior Gloss Urethane, factory-formulated gloss urethane for exterior application. The dry film thickness shall meet that recommended in manufacturer's product data.
 - 1. Ameron Amercoat 450HSG, 2-3 mils dry film thickness, each coat
 - 2. ICI Dulux Paints: Devthane 378 UVA Aliphatic Urethane Gloss Enamel, 2-3 mils dry film thickness, each coat.
 - 3. Kelly-Moore: KM-375 High Build Gloss Polyurethane Enamel, 2 to 5 mils dry film thickness, each coat.
 - 4. Sherwin-Williams: Hi-Solids Polyurethane, B65-300 Series Polyurethane, 3-4 mils dry film thickness, each coat.
 - 4. Or Engineer approved equal.
- F. Miscellaneous:
 - 1. Caulking Compound: Acrylic latex type.
- G. Provide other materials not specified but required for a complete and proper application, as selected by the Contractor for approval by the Engineer.

2.03 APPLICATION EQUIPMENT

- A. Spray and Roller Equipment: Proper type for work, subject to the approval of the Engineer.

PART 3 – EXECUTION

3.01 SURFACE CONDITIONS

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.02 MATERIALS PREPARATION

- A. General:
 - 1. Mix and prepare paint materials in accordance with the manufacturer's published instructions.
- B. Stirring:
 - 1. Stir materials before application producing a mixture of uniform density.
 - 2. Do not stir film, which may form on the surface into the material. Remove the film and strain or filter the material appropriately before using.

3.03 SURFACE PREPARATION

- A. General:
 - 1. Cure concrete for a minimum of three (3) weeks prior to applying paint.
 - 2. Moisten concrete surface prior to applying paint to prevent concrete from absorbing water out of paint.
 - 3. Concrete: Remove efflorescence, chalk, form release agent, and other materials from surface of concrete which will inhibit adherence and coverage of paint. Brush concrete or apply primer coat of low viscosity penetrant paint to prepare walls and ceiling to receive top coats.
 - 4. Protect all adjacent finish surfaces from paint including colored concrete pavement, rolling grille, signage, light fixtures, switches and switch boxes, and other finished surfaces.
 - 5. Perform preparation and cleaning procedures in accordance with the paint manufacturer's published instructions and as approved by the Engineer. Clean concrete and metal surfaces free of all mill rust, form release agents, and efflorescence and prime metals.
 - 6. Remove removable items, which are in place and are not scheduled to receive paint finish; or provide surface-applied protection prior to surface preparation and painting operations.
 - 7. Following completion of painting in each space or area, reinstall the removed items by using workers who are skilled in the appropriate trades.
 - 8. Clean each surface to be painted prior to applying paint of surface treatment.
 - 9. Remove oil and grease with clean cloths and cleaning solvent of low toxicity and flash point in excess of 200 degrees F prior to start of mechanical cleaning.

10. Schedule the cleaning and painting so that dust and other contaminants from the cleaning process will not fall onto or affect wet newly painted surfaces.
- B. Preparation of Metal Surfaces:
1. Thoroughly clean surfaces until free from dirt, oil, grease and the like.
 2. On galvanized surfaces, use solvent for the initial cleaning and then treat the surface thoroughly with phosphoric acid etch. Remove etching solution completely before proceeding.
 3. Allow to appropriately dry before application of paint.

3.04 PAINT APPLICATION

- A. General:
1. The dry film thickness be at least than that recommended in manufacturer's product data. The specified number of coats is the minimum acceptable. If full coverage or required dry film thickness is not attained with specified number of coats, apply additional coats as necessary to achieve coverage and required thickness.
 2. Apply material evenly without runs, sags, crawls, holidays, or other defects. For brush work, brush out smooth and leave a minimum of brush marks. Where paint is rolled on, use fine nap roller so that a nearly flat or orange peel texture is obtained.
 3. Touch-up shop-applied prime coats, which have been damaged and touch-up bare areas prior to start of finish coats application.
 4. Do not apply additional coats until the completed coat has been inspected and approved by the Engineer.
 5. Only the inspected and approved coats of paint will be considered in determining the number of coats applied.
 6. Sand and clean dust and other debris between coats to remove defects visible to the unaided eye from a distance of 5 feet.
 7. On removable panels and hinged panels, paint the back sides to match the exposed sides.
- B. Drying and Re-Coat Window:
1. Allow sufficient drying time between coats, modifying the period as recommended by the material manufacturer to suit weather conditions.
 2. Comply with manufacturer's re-coat timing restrictions.

- C. Spray Application:
 - 1. Confine spray application to metal framework and similar surfaces where hand brushwork would be inferior.
 - 2. Where spray application is used, apply each coat to provide the hiding equivalent of brush coats.
 - 3. Do not double back with spray equipment to build up film thickness of two coats in one pass.
- D. Completed work shall match the samples approved by the Engineer as to texture, color, and coverage.

3.05 FIELD QUALITY CONTROL

- A. Testing: Measure thickness of paint on metal with magnetic dry mil thickness gauge to verify that manufacturer designated thickness has been attained and supply the Engineer with a certificate of compliance that said thickness has been attained.

3.06 PROTECTION AND CLEANUP

- A. Protection: Protect building elements and components, paving, landscaping, and vehicles from damage, staining, overspray, marking, soiling, and the like. Leave work clean, whole, and as new. Correct damage by cleaning, repairing, replacing, or repainting.
- B. Hardware, Fixture Canopies, Outlet Covers, Switch Plates and Similar Items: Remove or loosen and replace as required for painting work. New hardware except for hinges shall not be installed until painting and finishing work is completed; mask and protect hinges from paint or damage.
- C. Cleanup: During progress of work clean up discarded paint materials debris cans, rags and the like; remove from the project site. Implement applicable safety methods in control or disposal of flammable materials.

3.07 PAINTING SCHEDULE

- A. Exterior Finish System:
 - 1. Ferrous and other metals: Field apply primer. For shop primed ferrous metal: Touch-up primer as specified in Division 5, Metals.
 - 2. Intermediate and Finish Coats: As specified in Part 2 of this Section.
- B. Heavy Duty Exterior Finish System:
 - 1. Field apply primer. For shop primed ferrous metal: Touch-up primer as specified in Division 5, Metals.

2. Intermediate and Finish Coats: As specified in Part 2 of this Section.

END OF SECTION