

DIVISION 9 - FINISHES
SECTION 09 91 00 - PAINTING
PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Surface preparation and field application of paints and coatings; materials and finished surfaces as called for.
- B. *Following categories of work are not included as part of field applied finish work, or are included in other sections of these specifications:
 - 1. Shop Priming: Unless otherwise specified, shop priming of ferrous metal items is included under various sections for structural steel, miscellaneous metal, hollow metal work and similar items. Also, for fabricated components such as architectural woodwork, wood casework and shop fabricated, or factory built mechanical and electrical equipment or accessories.
 - 2. Pre-Finished Items: Unless otherwise indicated, do not include painting when factory finishing or installer finishing is specified for such items as (but not limited to) prefinished doors, finished mechanical and electrical equipment including light fixtures and air diffusers, switchgear and distribution cabinets.
 - 3. Concealed Surfaces: Unless otherwise indicated, painting is not required on surfaces such as walls or ceilings in concealed areas and generally inaccessible areas, foundation spaces, furred areas, utility tunnels, pipe spaces, and duct shafts.
 - 4. Finished Metal Surfaces: Metal surfaces of anodized aluminum, stainless steel, chromium plate, copper, bronze and similar finished materials will not require finish painting unless otherwise indicated.
 - 5. Operating Parts and Labels: Moving parts of operating units, mechanical and electrical parts, such as valve and damper operations, linkages, sinkages, sensing devices, motor and fan shafts will not require finish painting unless otherwise indicated.
 - a. Do not paint over any code required labels such as Underwriters' Laboratories and Factory Mutual, or any equipment identification, performance rating, name or nomenclature plates.

1.2 RELATED SECTIONS

- A. Work as required under Mechanical, Refrigeration, or Electrical Sections of these or separate Specifications.

1.3 REFERENCES

- A. ASTM D16 - Definitions of Terms Relating to Paint, Varnish, Lacquer, and Related Products.
- B. ASTM D2016 - Test Method for Moisture Content of Wood.
- C. AWWA D102 - Painting Steel Water Storage Tanks.
- D. NACE - Industrial Maintenance Painting.
- E. NPCA - Guide to U.S. Government Paint Specifications.
- F. PDCA - Painting - Architectural Specifications Manual.

G. SSPC - Steel Structures Painting Manual.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 10 00.
- B. Provide product data describing physical and performance characteristics; colors available.
- C. Materials must meet or exceed appropriate, recognized industry standards (Federal, UL, ASTM, OSHA, etc.). Materials shall conform to volatile organic chemical (VOC) emission standards at the place where the project is located.
- D. No material used may contain lead.
- E. Mockup - Provide minimum 4' X 4' sample of each color selected for final review applied to base material simulating field conditions.
- F. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

- A. Perform work in accordance with reference documents.
- B. Maintain one copy of each installation related reference document, on site.

1.6 QUALIFICATIONS

- A. Manufacturer: A company specializing in the manufacture of the products specified in this Section, with a minimum of 10 years documented experience.
- B. Applicator: A subcontractor who has satisfactorily completed a minimum of two recent projects, of comparable size and type, using the manufacturer's materials.

1.7 JOB CONDITIONS

- A. Apply water base paints only when temperature of surfaces to be painted and surrounding air temperatures are between 50°F (10°C) and 90°F (32°C), unless otherwise permitted by paint manufacturer's printed instructions.
- B. Apply solvent thinned paints only when temperature of surfaces to be painted and surrounding air temperatures are between 45°F (7°C) and 95°F (34°C), unless otherwise permitted by paint manufacturer's printed instructions.
- C. Do not apply paint in snow, rain, fog or mist, or when relative humidity exceeds 85%, or to damp or wet surfaces unless otherwise permitted by paint manufacturer's printed instructions.
 - 1. Painting may be continued during inclement weather if area and surfaces to be painted are enclosed and heated within temperature limits specified by paint manufacturer during application and drying periods.
- D. Apply paint only with minimum 50 FC light provided at all surfaces.
- E. Provide barriers to occupied portions of the facility during painting and curing operations.
- F. At all interior applications, provide ventilation of at least 6 air changes per hour during painting and curing operations.

1.8 WARRANTY

- A. In accordance with the General Conditions of the Construction Contract.

PART 2 PRODUCTS

2.1 COLORS AND FINISHES

- A. Surface treatments and finishes are indicated in the Finish Schedule of the contract documents.
- B. Prior to beginning work, Architect will make selection from manufacturer's complete range of colors for surfaces to be painted.
- C. Color Pigments
 - 1. Pure, non-fading, application types to suit substrates and service indicated.
 - 2. Lead content in pigment, if any, is limited to contain not more than 0.6% lead as lead metal based on the total non-volatile (dry film) or paint by weight.
- D. Paint Coordination
 - 1. Provide finish coats which are compatible with prime paint used. Review other sections of these specifications in which prime paint are to be provided to ensure compatibility of total coatings system for various substrates. Upon request from other trades, furnish information in characteristics of finish materials proposed for use, to ensure compatible prime coats are used.
 - 2. Provide barrier coats over incompatible primers or remove and re-prime as required. Notify Architect in writing of any anticipated problems using specified coating systems with substrates primed by others.

2.2 MATERIAL QUALITY

- A. Provide best quality grade of various types of coatings as regularly manufactured by acceptable paint materials manufacturers. Materials not displaying manufacturer's identification as a standard, best grade product will not be acceptable.
- B. Proprietary names used to designate colors or materials are not intended to imply that products of named manufacturers are required to exclusion of equivalent products of other manufacturers.
 - 1. Provide undercoat paint produced by same manufacturer as finish coats. Use only thinners approved by paint manufacturer and use only within recommended limits.
 - 2. Acceptable Manufacturers:

Conventional Paints

Benjamin Moore

Sherwin Williams

California Paints

Special Coatings

Tnemec

DuPont

Hempel

2.3 SURFACES TO BE FINISHED

- A. Exposed interior and exterior surfaces normally finished as a part of the work of this Section of the Specifications.
 - 1. Omission of an item shall not relieve the subcontractor of his responsibility to include such work, when it is a part of the general intent as stated herein.
- B. Surfaces to be finished shall include the following:
 - 1. Exterior:
 - a. Bollards not noted to be galvanized.

- b. Exterior handrails, platforms, and equipment support frames where not noted to be galvanized.
- 2. Interior:
 - a. Bollards & embedded plate at floor not noted to be galvanized.
 - b. New concrete masonry walls.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Applicator must examine areas and conditions under which painting work is to be applied and notify subcontractor in writing of any conditions detrimental to proper and timely completion of work. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to Applicator.
- B. Starting of painting work will be construed as Applicator's acceptance of surfaces and other conditions within any particular area.
- C. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces or conditions otherwise detrimental to formation of a durable paint film.
- D. Wall surfaces must be dry, to the appropriate acceptable moisture content for each substrate material, when tested by electronic moisture meter.

3.2 PREPARATION

- A. General
 - 1. Remove electrical, telephone, and other wall plates and covers. Reinstall after painting.
 - a. Wire brush as necessary to remove efflorescence, loose particles, spatter, soil, etc., with emphasis on joints.
 - b. Remove all stains with dilute acid solution, or TSP, as appropriate.
 - 2. Remove door finish hardware. Reinstall after painting.
 - 3. Clean surfaces to be painted before applying paint or surface treatments. Remove oil and grease prior to mechanical cleaning. Program cleaning and painting so that contaminants from cleaning process will not fall onto wet, newly painted surfaces.
 - 4. Wash all existing surfaces with solution of trisodium phosphate or equal cleaner, followed by a wash with clear water.
 - 5. Vacuum surfaces clean and free of loose particles, dust, etc., where appropriate; wipe clean with "tack" cloth following sanding.
 - 6. Proper lighting, ventilation, and temperature must be maintained during work.
- B. Specific, By Material
 - 1. Concrete Block (cured min. 30 days).
 - 2. Structural Steel or Miscellaneous Metal (SSPC SP3 preparation and shop prime).
 - a. Sand or scrape as required to remove any loose prime, rust, etc.; wash, rinse, and dry.
 - b. Touch up prime coat.

- c. Treat unprimed areas, field welds, bolts and nuts, etc., with a phosphoric acid solution; rinse, dry and apply primer.

3.3 FINISH APPLICATION

- A. All materials shall be used in accordance with the manufacturer's instructions; dilute or thin materials only as specifically recommended. In the event of a conflict between this Specification and the manufacturer's instructions, the latter shall govern; this applies especially to surface preparation
 1. No finish shall be applied to a surface which is not dry. Each coat must be dry prior to application of further material.
 2. Each coat shall be applied to a uniform finish. Skips, holidays, "orange peel", runs, brush marks, etc., will not be accepted.
 3. Lightly sand work between coats, as appropriate. Vacuum and/or wipe with tack cloths prior to applying subsequent coats.
 4. Unexposed material surfaces shall be back primed as appropriate.
 5. Care must be exercised to protect finishes and to prevent damage to adjacent surfaces. Masking tape and covers, drop cloths, etc., shall be used as required.
 6. Remove unfinished louvers, grilles, covers, access panels on mechanical and electrical components and print separately.
 7. Following completion, costs for repair shall be borne by the subcontractor(s) responsible for damage.

3.4 FINISH PAINTING SCHEDULE

- A. The following finish systems refer to products of Benjamin Moore, unless indicated otherwise. Provide these systems or comparable systems from any specified manufacturer.
 1. EXTERIOR MASONRY

Block, Brick, Cast in Place Concrete

Prep: Fill all pin holes with compatible caulking.

Primer/Filler: Tnemec Series 156 Enviro-Crete at 8-10 mils DFT (Dry Film Thickness).

Top Coat: Tnemec Series 156 Enviro-Crete at 8-10 mils DFT.

Note: Tnemec 180/181 W.B. Tneme-Crete may be used as an alternate system.
 2. EXTERIOR GALVANIZED METAL- Fluoropolymer system

(Surface Preparation: SSPC-SP7/NACE4-Brush-off Blast Cleaning)

Primer: Tnemec Series N69 Hi-Build Epoxoline II at 2.5 – 3.0 mils DFT.

Base Coat: Tnemec Series 1075 Endura-Shield II at 2.5 – 3.0 mils DFT,

Top Coat: Tnemec Series 1075 Endura-Shield II at 2.0 mils DFT.

For Metallics use Tnemec Series 1077 Enduralume.
 3. INTERIOR CONCRETE AND CMU-Water Borne Epoxy/Urethane System

Prep: Fill all pin holes with compatible caulking.

Primer/Filler: Tnemec Series 130 Envirofill at 100 sq. ft. per gallon.

Base Coat: Tnemec Series 113/114 H.B. Theme-Tufcoat at 4.0 mils DFT.

Top Coat: Tnemec Series 1081 Endura-Shield at 2.5 mils DFT.

4. INTERIOR CONCRETE FLOORS (Moderate Traffic)

(Surface Preparation: Shot blast all surfaces)

Base Coat: Tnemec Series 287 Enviro-Pox at 3.0 mils DFT.

Top Coat: Tnemec Series 287 Enviro-Pix at 3.0 mils DFT.

5. INTERIOR MISCELLANEOUS METAL (High Impact or Traffic)

(Surface Preparation: SSPC-SP3-Power Tool Cleaning)

Primer: Tnemec Series N69 Hi-Build Epoxoline II at 2.5 mils DFT.

Base Coat: Tnemec Series 1080 Endura-Shield at 2.0 mils DFT.

Top Coat: Tnemec Series 1080 Endura-Shield at 2.0 mils DFT.

6. ODORLESS CONCRETE FLOOR SEALER

Flood Coat: Ashford Formula by Curecrete Chemical.

PART 4 COMPLETION

4.1 CLEANUP

- A. All work shall be left clean and undamaged.
- B. Refer to pertinent portions of Section 01 10 00.

END OF SECTION