

## SECTION 09900

### PAINTING

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

- A. The work of this section consists of painting and finishing work.

##### 1.02 QUALITY STANDARDS

- A. Comply with applicable regulations of Occupational Safety and Health Act (OSHA) 28 CFR 1926-1993
- B. In addition, blasting shall conform to the following standards:
1. Clemtex Limited Anchor Pattern Standards
  2. Keane-Tator Surface Profile Comparator
  3. Swedish Pictorial Standard as described in SSPC-Visual Book Volume 1
- C. Existing buildings in this project may contain lead-based paint materials. The Contractor shall comply with OSHA, federal, state and local regulations in the handling and disposal of hazardous materials. Encapsulation of lead-based paint shall be utilized to the greatest degree possible.
- D. Paint thicknesses specified are minimum dry mil thicknesses. Painting coverage rates in gal per square foot quoted are based on manufacturer's published theoretical coverage data less 20 percent to arrive at practical coverage usage. In situations of discrepancy between mil thickness on surface and coverage rates applied, mil thickness governs.
- E. Paint includes fillers, primers, sealers, emulsions, oils, alkyds, latex, enamels, thinners, stains, epoxies, vinyls, chlorinated rubbers, coal tars, urethanes, shellacs, varnishes, and other applied coatings.
- F. For unspecified materials such as turpentine or linseed oil provide best grade recommended by selected manufacturer.
- G. Paint without NFPA 101-91 A or B ratings may not be used in exit routes.

##### 1.03 SUBMITTALS

- A. As specified in Section 01300.
- B. Safety plan for lead-based paint abatement.
- C. Detailed product data sheets, recommended application procedures, and coverages.

- D. Samples: Complete range of colors for selection.
- E. Test Reports.
  - 1. Provide test reports of flame spread per ASTM E84-91aE1 for paints. Supply for paints requiring ratings per NFPA 101-91.
  - 2. Provide performance and chemical test reports.
- F. Maintenance and Repair Manuals. Include recommended scheduling and repainting in accordance with Section 01300.
- G. Coating Test Panels: Field apply coatings to 12 x 12 IN test panel illustrating colors and textures for each surface, material, color, and texture for Owner's approval of test panels.
- H. At project completion furnish two quarts of paint of each type and color used.
- I. At completion of project furnish final paint schedule documenting for each paint product, manufacturer, product name/number, color name/number or formula, and use in accordance with Section 01300.

#### **1.04 DELIVERY, STORAGE AND HANDLING**

- A. Deliver in original containers, labeled as follows:
  - 1. Name or type number of material
  - 2. Manufacturer's name and stock number
  - 3. Contents, by volume, of major constituents
  - 4. Application instructions
  - 5. Warning labels
  - 6. All unlabeled containers shall be removed from project site.
- B. Protect from freezing or damage.
- C. Store materials in accordance with local, state, and federal requirements for paints, toxic materials, and hazardous materials, in place designated by Owner.
  - 1. Keep storage neat and clean.
  - 2. Repair damage thereto or to surroundings.
  - 3. Remove rags and waste from building daily.
  - 4. Avoid danger of fire.
  - 5. Provide spill containment.

### **PART 2 - MATERIALS**

#### **2.01 ACCEPTABLE MANUFACTURERS**

- A. Paint systems presented in this specification are based on the manufacturer named in individual system descriptions.

B. The manufacturers listed below are acceptable suppliers. Products of other manufacturers may be used if approved as equal.

1. TNEMEC Company, Inc.
2. Carboline Company
3. Benjamin Moore Paints
4. Thoro System Products
5. Sherwin Williams Company
6. or Approved Equal

**2.02 COLOR SCHEDULE:**

A. Color Schedule, as selected by Engineer.

B. Color Schedule for Pipes:

| <b>SYMBOL</b> | <b>SERVICE</b> | <b>PAINT</b> |
|---------------|----------------|--------------|
| FUEL          | Diesel Fuel    |              |
| NG            | Natural Gas    | Red          |
| RD            | Roof Drain     |              |
| S             | Sanitary Sewer | Dark Grey    |
| V             | Vent           | Light Grey   |
| W             | Potable Water  | Dark Blue    |

1. ANSI colors shall be in accordance with ANSI Z 53.1-79.
2. After painting, all pipelines, including tubing, above ground, inside or outside of the structures and buildings in concrete trenches or tunnels, in boxes, etc., and in pipe trays shall be marked with an identification marker indicating the contents of the pipe in accordance to color schedule (marker shall reflect "Service" listed in Pipe color schedule in this section or as shown on Pipe Schedule on the Drawings) and direction of flow arrow. Identification markers shall be placed at no greater than 25-foot intervals inside buildings and at not greater than 50-foot intervals exterior to the building, in tunnels, and other locations. Letter and number size for identification markers shall be as indicated on the table.

| <b>PIPE/COVERING<br/>O.D. (inches)</b> | <b>COLOR BAND<br/>LENGTH (inches)</b> | <b>LETTER HEIGHT<br/>(inches)</b> |
|--|---------------------------------------|-----------------------------------|
| 3/4 to 1-1/4                           | 8                                     | 1/2                               |
| 1-1/2 to 2                             | 8                                     | 3/4                               |
| 2-1/2 to 6                             | 12                                    | 1-1/4                             |
| 8 to 10                                | 24                                    | 2-1/2                             |
| Over 10                                | 32                                    | 3-1/2                             |

3. Unless the line is in such a location that it can be seen only from one direction, such as pipes near a wall, two sets of the code designation shall be applied at each location, placed in the two visible quadrants, with respect to normal viewing positions. In general, pipe identification, size, color and arrangements shall be in accordance with ANSI A 13.1-81.
4. All identification markers shall be manufactured by Seton Identification Products, P.O. Box LB-1-1331, New Haven, CT 06505, (800) 243-6624, or approved equal. They shall be "OPTI-CODE Pipe Markers" or approved equal. Provide "Arrows or a Roll" or approved equal on each end of the pipe marker to help retain marker on pipe. Submit identification marker colors for Engineer's selection.

### 2.03 PAINT SYSTEMS

- A. P = prime coat. F1, F2 . . . Fn = first finish coat, second finish coat...nth finish coat. Where a finish coat of paint is indicated to be at exterior only, it shall be in addition to the other prime and finish coats specified.
- B. Each paint system consists of several coats. The coat thickness indicated for each coat is based on spray application. Other application methods may require multiple coats to achieve desired thickness.
- C. All paint and coating materials furnished for each coating system shall be the products of a single manufacturer.
- D. Only compatible materials shall be used in the work.
- E. All coatings utilized shall be certified "non-lead" (less than 0.06% lead by weight in the dried film) as defined in Part 1303 of the Consumer Product Safety Act.
- F. System No. 1 for Submerged Metal:
  1. Paint Material:
    - a. Polyamidoamine Epoxy

2. Tnemec  
P1 = N69 (VOC = 2.38 to 2.79)  
1 coat, 4 dry mils]

F1 = N69 (VOC = 2.38 to 2.79)  
1 coat, 4 dry mils]

F2 = N69 (VOC = 2.38 to 2.79)  
1 coat, 4 dry mils]

G. System No. 2 for Exposed Metals:

1. Paint Material:

a. Polyamidoamine Epoxy

2. Tnemec

P1 = N69 (VOC = 2.38 to 2.79 lbs/gal)  
1 coat, 4 dry mils

F1 = N69 (VOC = 2.38 to 2.79 lbs/gal)  
1 coat, 4 dry mils

F2 = N69 (VOC = 2.38 to 2.79 lbs/gal)  
1 coat, 4 dry mils

F3 at exterior only = 1075 (VOC = 1.84 to 2.55 lbs/gal)  
1 coat, 2.5 dry mils

H. System 3 for Pre-Primed Metals:

1. Paint Material:

a. Polyamidoamine Epoxy

2. Tnemec

P1 = Repair factory primer; if primer not compatible, apply 2 dry mils of universal barrier coat.

F1 = N69 (VOC = 2.38 to 2.79 lbs/gal)  
1 coat, 4 dry mils

F2 = N69 (VOC = 2.38 to 2.79 lbs/gal)  
1 coat, 4 dry mils

F3 at exterior only = 1075 (VOC = 1.84 to 2.55 lbs/gal)  
1 coat, 2.5 dry mils

I. System No. 4 for Galvanized Metal Conditioning:

1. Paint Material:

a. Polyamidoamine Epoxy

2. Tnemec  
P1 = N69 (VOC = 2.38 to 2.79 lbs/gal)  
1 coat, 4 dry mils  
  
F1 = N69 (VOC = 2.38 to 2.79 lbs/gal)  
1 coat, 4 dry mils  
  
F2 at exterior only = 1075 (VOC = 1.84 to 2.55 lbs/gal)  
1 coat, 2.5 dry mils

J. System No. 5 Galvanized Metal Repair:

1. Paint Material:
  - a. Polyamidoamine Epoxy
2. Tnemec  
P1 = 90 - 97 (VOC = 2.67 to 3.09 lbs/gal)  
1 coat, 3 dry mils  
  
P2 = N69 (VOC = 2.38 to 2.79 lbs/gal)  
1 coat, 4 dry mils  
  
F1 = N69 (VOC = 2.38 to 2.79 lbs/gal)  
1 coat, 4 dry mils  
  
F2 at exterior only = 1075 (VOC = 1.84 to 2.55 lbs/gal)  
1 coat, 2.5 dry mils

K. System No. 6 for Copper and Brass:

1. Paint Material:
  - a. Polyamidoamine Epoxy
2. Tnemec  
P1 = N69 (VOC = 2.38 to 2.79 lbs/gal)  
1 coat, 4 dry mils  
  
F1 = N69 (VOC = 2.38 to 2.79 lbs/gal)  
1 coat, 4 dry mils  
  
F2 at exterior only = 1075 (VOC = 1.84 to 2.55 lbs/gal)  
1 coat, 2.5 dry mils

L. System No. 7 for aluminum buried in concrete and aluminum in contact with dissimilar metals:

1. Paint Material:
  - a. Polyamidoamine Epoxy
2. Tnemec  
P1 = N69 (VOC = 2.38 to 2.79 lbs/gal)  
1 coat, 4 dry mils

- M. System No. 8 for Exposed Aluminum:
1. Paint Material:
    - a. Polyamidoamine Epoxy
  2. Tnemec  
P1 = N69 (VOC = 2.38 to 2.79 lbs/gal)  
1 coat, 4 dry mils  
  
F1 = N69 (VOC = 2.38 to 2.79 lbs/gal)  
1 coat, 4 dry mils  
  
F2 at exterior only = 1075 (VOC=1.84 to 2.55 lbs/gal)  
1 coat, 2.5 dry mils
- N. System 9 for Aluminum Flashing:
1. Paint Material:
    - a. Polyamidoamine Epoxy
  2. Tnemec  
P1 = N69 (VOC = 2.38 to 2.79 lbs/gal)  
1 coat, 4 dry mils  
  
F1 = 1075 color (VOC = 1.84 to 2.55 lbs/gal)  
1 coat, 2.5 dry mils
- O. System No. 10 for High Temperature Exposure Metal:
1. Paint Material:
    - a. Ethyl Silicate Inorganic Zinc-Rich Primer
  2. Tnemec  
P1 = 90E-92 (VOC = 3.96 to 4.20 lbs/gal)  
1 coat, 2.5 dry mils  
  
F1 = 90E-92 (VOC = 3.96 to 4.20 lbs/gal)  
1 coat, 2.5 dry mils
- P. System No. 11 for Plastic:
1. Paint Material:
    - a. Polyamidoamine Epoxy
  2. Tnemec  
P1 = N69 (VOC = 2.38 to 2.79 lbs/gal)  
1 coat, 4 dry mils  
  
F1 = N69 (VOC = 2.38 to 2.79 lbs/gal)  
1 coat, 4 dry mils  
  
F2 at exterior only = 1075 (VOC = 1.84 to 2.55 lbs/gal)  
1 coat, 2.5 dry mils

Q. System No. 13 for Concrete Subject to Chemical Attack:

1. Paint Material:
  - a. Epoxy
2. Tnemec  
P1 = Series 218, Mortarclad  
1 coat, 1/16" minimum dry mils  
  
F1 = Series 434, Permashield H2S  
1/8" minimum dry mils

Top Coat Color: Beige or Other Light Color

R. System No. 15 for Sandblasted Concrete (**Bid Additive A**):

1. Paint Material:
  - a. Modified Acrylate Elastomer
2. Sonneborn  
F1 = White Roc W, 200 to 300 sf/gal/coat  
  
F2 = White Roc W, 200 to 300 sf/gal/coat

S. System No. 16 for Interior Concrete:

1. Paint Material:
  - a. Water Based Acrylic Epoxy
2. Tnemec  
P1 = 113 (VOC = 1.85 to 1.97 lbs/gal)  
1 coat, 5 dry mils  
  
F1 = 113 (VOC = 1.85 to 1.97 lbs/gal)  
1 coat 5 dry mils

## 2.04 APPLICATION SCHEDULE

A. Unless otherwise shown or specified, paint surfaces in accordance with the following application schedule. In the event of discrepancies or omissions in the following, request clarification from Engineer before starting work in question.

1. System No. 1 for Submerged Metal. Use for all ferrous metals located below a plane 1 foot above maximum liquid surface including but not limited to piping, valves, gates, structural steel, equipment, pumps, clarifier components, and other similar items.
2. System No. 2 for Exposed Metals. Use for all ferrous metals located above submerged areas including but not limited to equipment, piping, valves, structural steel, steel doors, steel door frames, window frames, steel railings, pipe bollards, and other similar items.
3. System 3 for Pre-Primed Metals. Use for all pre-primed pipe or other pre-primed metal surfaces.

4. System No. 4 for Galvanized Metal Conditioning. Use on the following items or area:
  - a. Assembled galvanized steel, insulated pipe, and duct surfaces requiring painting.
5. System No. 5 for Galvanized Metal Repair. Use on the following items or areas:
  - a. Galvanized surfaces that are cut, abraded, chipped or damaged.
  - b. Field cut edges of galvanized steel.
6. System No. 6 for Copper and Brass. Use for all copper and brass surfaces.
7. System No. 7 for Aluminum buried in concrete and aluminum in contact with dissimilar metals. Use for all Aluminum buried in concrete and aluminum in contact with dissimilar metals.
8. System No. 8 for Exposed Aluminum. Use only for aluminum exposed to view that is specifically indicated to be painted.
9. System 9 for Aluminum Flashing. Use for aluminum flashing that is not prefinished and specifically indicated to be finished.
10. System No. 10 for High Temperature Exposure Metal. Use on the following items or area:
  - a. Engine mufflers, exhaust systems, blower discharge piping, and other metal surfaces subjected to high temperatures (up to 750 degree F).
11. System No. 11 for Plastic. Use on all PVC, FRP, and CPVC surfaces
12. System No. 13 for Concrete Subject to Chemical Attack. Use on the following items or areas:
  - a. Lift Station Wetwell
  - b. Manholes
13. System No. 15 for Sandblasted Concrete. Use on the following items or area:
  - a. Sandblasted concrete walls. All exposed faces, including top of walls shall be painted with this system.
14. System No. 16 for Interior Concrete. Use only for interior concrete, CMU, and Brick Masonry specifically indicated to be painted.

**B. Do not paint following:**

1. Stainless steel or finished metal surfaces
2. Exposed to view aluminum surfaces including immersed surfaces except those noted previously
3. Fiberglass surfaces, unless indicated otherwise
4. Interior of pipe, ductwork, and conduits
5. Moving parts of mechanical and electrical units
6. Code labels and equipment identification and rating plates
7. Exterior concrete or precast concrete surfaces except as noted previously
8. Piping, ductwork or pipe conduit when enclosed between suspended ceiling and overhead slabs or located in pipe chases
9. Factory finished furniture, laboratory casework, metal toilet partitions, kitchen units, lockers, mechanical equipment, electrical equipment, shop and storage equipment with an approved corrosion resistant finish, exterior louvers

10. Factory furnished motor control centers, control panels, engines, engine generators, outdoor electrical panels, electrical switchgear, and centrifuges
11. Factory finished equipment and appurtenances
12. Threads on bolts, nuts, and threaded taps
13. Glazing
14. Plastic laminate surfaces
15. Copper flashing, gutters and downspouts
16. Prefinished galvanized sheet metal

## **PART 3 - EXECUTION**

### **3.01 SURFACE PREPARATION**

#### **A. General:**

1. Prepare internal and external surfaces requiring paint and make sound, clean and free of harmful scale, rust, dust, dirt, oil, loose paint, grease, moisture and other foreign matter. Remove grease, oil or soap accumulations by means of suitable solvents and by thorough washing of surface with clean water.
2. Scrape damaged paint and rust pits back to sound material using scaling hammers, chisels, scrapers, hand or power operated tools.
3. Strip bubbled, cracked, crazed or otherwise defective paint with hand or power tools. Flatten gloss paint with sandpaper. Leave surfaces suitable to receive designated finishes. The use of sandblasting or burning tools on historic materials, except existing piping and valves, is prohibited.
4. Remove by brush, air blast, or vacuum cleaner shot or grit. Do not contaminate blasted cleaned surfaces prior to painting.
5. Prepare surfaces and prime prior to installation all elements of construction that are closer than 4 inches to structures to allow for proper preparation after installation. Apply final coatings after installation.
6. Prepare surfaces as specified and in accordance with recommendations by the paint manufacturer.

#### **B. Ferrous Metals:**

1. Complete all fabrication, welding or burning prior to sandblasting operation. Grind flux, spatter, slag, or other laminations left from welding. Remove mill scale. Grind smooth rough welds and other sharp projections.
2. Near-white blast clean in accordance with SSPC-SP10-91 ferrous metals located in submerged areas and to 6 inches above liquid level, or areas subject to splash, spillage, or fumes.
3. Commercial blast clean in accordance with SSPC-SP6-91 ferrous metals located 6 inches above submerged areas and area not subject to splash, spillage, or fumes.
4. Near-white blast clean in accordance with SSPC-SP10-91 all metals subject to high heat and scheduled to receive heat-resistant coatings.
5. Complete prime coating of abrasive blasted surfaces prior to rust blooms and within eight hours.

6. Prepare surfaces according to prescribed conditions above for equipment that does not have primer coat compatible with paint system and reprime with compatible primer.
  7. Where metal is galvanized, brush blast in accordance with SSPC-SP7-91.
- C. Copper and Brass:
1. Remove flux residue from joints and sand to remove oxides.
  2. Solvent clean in effort comparable to SSPC-SP1-82 with suitable solvent.
- D. Aluminum:
1. Solvent clean in effort comparable to SSPC-SP1-82 with suitable solvent.
  2. Brush blast in effort comparable to SSPC-SP7-91 or acid etch in accordance with instructions of primer manufacturer.
- E. Plastic:
1. Solvent clean in effort comparable to SSPC-SP1-82 with suitable solvent.
  2. Roughen surfaces.
  3. Final surface preparation as per primer manufacturer.
- F. Underground Piping: Apply only to clean, dry surfaces. Remove rust, paint and other foreign matter by abrasive blasting per SSPC-SP6-91.
- G. Non-Insulated Water Piping: Paint prior to placing in service.
- H. Insulated Pipe and Ductwork: Remove powder, surplus adhesive and size.
- I. Concrete Block Masonry:
1. Do not apply paint until moisture content of joints and masonry falls below 8 percent.
  2. Apply block filler on exposed surfaces to produce uniform surface.
  3. Comply with ASTM D 4258-83(1992), ASTM D 4263-83 (1988) and ASTM D 4250-92.
  4. All cracks and voids shall be filled with a caulking material compatible with the specified coating. Surface preparation and applications (including block filler) shall be in accordance with manufacturer's instructions. Clean per ASTM D 4258-83 (1992).
  5. Acrylic latex block fillers are not acceptable.
- J. Poured or precast concrete surfaces (excluding prefinished precast panels).
1. Brush blast in effort comparable to SSPC-SP7-91 to remove loose concrete and laitance, and to provide tooth for bonding.
  2. Surfaces to be clean, dry and free from curing compounds, oils, grease, dirt, previous coating, or other foreign material.
  3. Concrete to be cured for minimum of 28 days. Moisture content to be less than 8 percent before painting.

4. Open up all bugholes, and provide an abraded surface similar in appearance to 80 grit sandpaper. Comply with ASTM D 4259-88 (1992).
  5. Comply with ASTM D 4258-83 (1992), ASTM D4259-88 (1992), ASTM D 4263-83 (1988) and ASTM D 4250-92.
- K. Cement Plaster/Surface Bonding Cement: Clean surfaces and remove loose and deleterious substances.
- L. Factory Finished Equipment:
1. Solvent clean in effort comparable to SSPC-SP1-82.
  2. Spot primer damaged areas on existing coatings.
  3. Lightly sand and wipe clean before painting.

### **3.02 BLASTING PROCEDURES**

- A. Blasting abrasive for all painting systems shall be clean copper slag of proper particle size to produce the specified profile. Media shall not contain any extraneous matter. Silica sand shall not be allowed at the project site.
- A. Provide personnel protection in accordance with OSHA Standards.
- B. Do not conduct blast operation on surfaces that will be wet after blasting and before painting.
- C. Apply primer to blasted surface same day as blast and before rusting occurs. Reblast surfaces allowed to set overnight prior to priming.
- D. Have profile depth of blasted surface not less than 1 mil or greater than 2 mils unless recommended otherwise by coating manufacturer.
- E. Compressed air for blasting to be free of water and oil. Provide accessible separators and traps.
- F. Confine blast media to area being prepared. Provide shields of polyethylene sheeting or other such barriers to confine blasting media. Place tents over rotating equipment near blasting operation for protection.
- G. Reblast surfaces not meeting specifications at no additional expense to Owner.
- H. Protect nameplates, valve stems, rotating equipment, motors and other items that may be damaged from blasting.
- I. Plug pipes, holes or openings before blasting. Keep plugged until blasting operation is completed and area is cleaned up.

### **3.03 PRIME COAT**

- A. Primer coats specified in painting system shall be field applied unless shop applied primer is provided.
- B. Prime ferrous metals bedded in concrete to minimum of 1 inch below exposed surfaces.
- C. After wood primer is thoroughly dry apply coating of shellac reduced with equal parts of methylhydrate to knots, pitch and sapwood.
- D. Remove powder, surplus adhesive and size from insulated pipe surfaces.
- E. Ensure prime coatings are compatible with finish coatings. If prime coating is not compatible apply a universal barrier coat of 2 mils thickness prior to finish coats, or remove primer coat and reprime.
- F. Back prime wood trim before installation.

### **3.04 APPLICATION**

- A. Apply paint using skilled and competent tradesmen, proper tools and application techniques for different aspects of work. Protect machinery, electrical panels and motors, couplings, and other equipment that may be damaged by paint operations. Clean off paint stops and splashes on areas not designated to receive paint as work proceeds.
- B. Brush, spray or roller, apply in strict accordance with selected painting manufacturer's published recommendations for each paint system primer and finish coats.
- C. Use clean brushes, spray equipment and rollers.
- D. Ensure mixing, thinning, pot life, application procedure, equipment, coverage, curing, recoating, storage and number of coats are in accordance with this specification and coating manufacturer's instructions.
- E. Avoid degradation and contamination of blasted surfaces and avoid intercoat contamination. Ensure method of cleaning contaminated surface follows manufacturer's recommendations.
- F. Protect all equipment and previously painted surfaces. Protect brick and stone masonry indicated to be unpainted.
- G. Work each application of material into corners, crevices, joints and other difficult to work areas, and distribute evenly over flat surfaces.
- H. Allow coated surfaces to cure prior to allowing traffic or other work to proceed which might damage finished surface.

- I. Have spraying operation conform to following procedures:
  - 1. Have spray equipment to be used for each application of particular coating available for inspection.
  - 2. Place operative moisture trap between air supply source and application equipment. Bleed water continuously from moisture trap.
  - 3. Ensure air source is sufficient to provide continuous volume of 20 CFM air at each gun nozzle at 80 psi for applying coatings by conventional spray technique. When coatings are applied by airless spray technique, ensure input pressure to pump is such to produce uniform spray patterns.
  - 4. For spraying applications, provide regulators and gauges in good working order on both air and material lines. Use operating pressures compatible for particular paint.
  - 5. Keep dry overspray to minimum.
  - 6. Spray nozzle to be a minimum of 8 inches to a maximum of 18 inches from substrate during application of paint.
  
- J. Do not paint when surface temperature being painted is less than 5°F above dew point, when relative humidity is greater than 85 percent, when wind velocity is above 15 mph, when surface temperature is less than 50°F or greater than 140°F unless precautions accepted by Owner are taken. Provide adequate ventilation and keep temperature constant to prevent condensation.
  
- K. Do not apply primer closer than 6 inches to a nonblasted area. Ensure sandblasting operation does not result in embedment of sand particles in paint film.
  
- L. Paint coats are intended to cover surfaces to mil thickness specified. If surfaces are not covered adequately by this thickness, apply additional coats as required at no additional expense to Owner.
  
- M. Brush out immediately runs or sags, or remove and recoat entire surface.
  
- N. Brush or spray bolts, welds, sharp edges and difficult access areas with primer prior to primer spray application.
  
- O. Apply zinc-rich primers under continuous agitation.
  
- P. Clean equipment at completion of each painting operation while material is still wet or uncured. Flush fluid hoses and guns at completion of each painting operation.
  
- Q. Maintain current schedule showing when work or respective coats of paint in various areas is to be completed.
  
- R. Assure hardware and accessories, plates, fixtures, finished work, and similar items are removed or protected.
  
- S. Paint surfaces prior to installation on items that cannot be properly prepared after installation.

- T. Each coat of paint shall be a different color.

### **3.05 INSPECTION**

- A. Provide access to work for Owner and painting manufacturer while work is being performed.
- B. Owner will approve prepared surfaces before primer and successive coats are applied.
- C. Have profile depth measurements made in presence of Owner in accordance with Steel Structures Painting Council steel structures painting manual latest edition of Good Painting Practices.
- D. Have measurements of paint dry film thickness made with Mikrotest gauge calibrated against National Bureau of Standards "Certified Coating Thickness Calibration Standards" in presence of Owner. Owner may measure paint thickness at any time during project to ensure conformance with specification.
- E. Ensure finished work is free of abrasions and uniform in color and appearance.
- F. Provide wet film thickness gauges. Monitor work of painters and blasters. Provide temperature gauge and determine surface temperature of items to be blasted or painted. Provide sling psychrometer to monitor humidity and dew point at all times.
- G. Replace or repair work, materials or equipment not meeting these specifications.

### **3.06 PROTECTION AND CLEAN-UP**

- A. Protect work of other trades, against damage by painting and finishing work. Leave all such work undamaged. Clean, repair or replace, and repaint any damaged areas as directed by Owner or Engineer.
- B. Provide "Wet Paint" signs as required.
- C. Remove temporary protective wrappings provided by others for protection of their work after completion of painting. Clean all window glass and other paint spattered surfaces. Remove spattered paint by proper methods of washing and scraping. Do not damage finished surfaces.
- D. On job completion remove all sand, debris, and rubbish, and repair or clean surfaces which are marred or spotted with other paint.
- E. Remove any surplus materials, scaffolding and debris.

**END OF SECTION**

