SECTION 09800

PAINTING & COATING

# GENERAL

## DESCRIPTION

### Scope:

#### The Contractor shall furnish all labor, materials, equipment and incidentals required to provide painting specified.

#### The extent of painting work is shown on the Drawings and schedules, and as herein specified.

#### The work includes the painting and finishing of all interior and exterior items and surfaces throughout the Project except as otherwise shown or specified. Surface preparation, priming and coats of paint specified are to be coordinated with shop priming and surface treatment specified under other sections of the work.

#### The term “paint” as used herein means all coating systems materials, which includes pretreatments, primers, emulsions, enamels, sealers and fillers, and other applied materials whether used as prime, intermediate or finish coats.

#### The Contractor shall paint all exposed surfaces whether colors are designated in any schedule. The term “exposed” as used herein means all items not covered with concrete, plaster, fireproofing or similar material. Ducts, conduits, and other materials with corrosion resistant surfaces which are in chases, above finished ceiling, or other inaccessible areas shall not require field painting unless specified to receive painting because of location in corrosive areas. Where items or surfaces are not specifically mentioned, the Contractor shall paint these the same as adjacent similar materials or areas.

#### Structural and miscellaneous metals covered with concrete, plaster, or similar material shall only receive a primer compatible with the covering material.

#### Shop drawings and samples shall be submitted for review within 90 days from the Notice to Proceed.

### Coordination:

#### The Contractor shall review installation procedures under other Sections and coordinate the installation of items that must be field painted in this Section.

#### The Contractor shall coordinate the painting of areas to be painted that will be inaccessible once equipment has been installed.

#### The Contractor shall provide finish coats which are compatible with the prime paints used. The contractor shall review other Sections of these Specifications in which prime paints are to be provided to ensure compatibility of the total coating systems for the various substrates. Contractor shall be responsible for the compatibility of all shop primed and field painted items in this Contract. The contractor shall furnish information on the characteristics of the proposed finish materials to ensure that compatible prime coats are used. Barrier coats shall be provided over incompatible primers, or primers shall be removed and reprimed as required. The Resident Engineer shall be notified in writing of anticipated problems using the coating systems as specified with substrates primed by others. Such notification shall be included with the equipment submittals.

### Painting Not Included: The following categories of work are not included as part of the field-applied finish work, or are included in other Sections of these Specifications.

#### **Shop Priming:** Unless otherwise specified, shop priming of structural metal, miscellaneous metal fabrications, other metal items and such fabricated components as shop-fabricated or factory-built heating and ventilating, and electrical equipment or accessories shall conform to applicable requirements of Section 09 90 00 but is included under the appropriate Sections of this Specification.

#### **Pre-Finished Items:** Unless otherwise shown or specified, painting shall not be included when factory finishing such as baked-on enamel, porcelain, polyvinylidene fluoride or other similar finish is specified for such items as, but not limited to, acoustic materials, finished mechanical and electrical equipment such as light fixtures and distribution cabinets. Contractor shall be required to touch up factory finished items with paint supplied by the item manufacturer. Contractor shall field paint damaged prefinished items as directed by the Resident Engineer. Where a factory finished coating is applied to an item which is not specified to receive a factory finish coat, acceptance of the factory finish coat shall be at the discretion of the Resident Engineer. The color shall be noted with the equipment submittals.

#### **Concealed Surfaces:**

##### Unless otherwise shown or specified, painting is not required on nonmetallic wall or ceiling surfaces in concealed from view areas and generally inaccessible areas, such as furred areas, pipe spaces, and duct shafts.

##### All piping, equipment, and other such items within these area, that do not have a galvanized or other corrosion resistant finish as specified shall be painted.

#### Concrete surfaces more than 12 inches below finish floor elevation, unless otherwise shown or specified.

#### Concrete floors covered with tile or similar products and exposed concrete floors and exterior walkways/slabs.

#### **Finished Metal Surfaces:** Metal surfaces of anodized aluminum, stainless steel, chromium plate, and similar finished materials will not require finish painting, unless otherwise shown or specified.

#### **Operating Parts and Labels:**

##### Moving parts of operating units, mechanical and electrical parts, such as valve operators, linkages, sensing devices, motor and fan shafts do not require finish painting unless otherwise specified.

##### The Contractor shall not paint over any code-required labels, such as UL and Factory Mutual, or any equipment identification, performance rating, name, or nomenclature plates.

##### All paint, coating or splatter inadvertently placed on these surfaces shall be removed.

### Definition of Exposures for Paints and Coatings:

#### Architectural Paint Systems refer to structures normally associated with office or public space settings. Includes administration or office buildings.

#### Process Coating Systems refer to structures normally associated with industrial processing. Includes headworks building, pump houses, and lift stations. Includes all related equipment within the structure.

#### Chemical containment or direct chemical exposure is intended to refer to materials or equipment associated with EPA 72-hour chemical containment structures. Direct chemical exposure includes 12.5% sodium hypochlorite, 98% sulfuric acid, ferric chloride.

#### Interior exposure is intended to refer to materials or equipment located inside a structure which provides protection from sunlight and weather.

#### Exterior exposure is intended to refer to materials or equipment located outside a structure, subjecting those items to sunlight and weather.

#### Submerged or immersion exposure is intended to refer to materials or equipment immersed, submerged, partially or intermittently submerged, or within the vapor zone of the submerged structure. Immersion conditions include potable water, wastewater, and raw sewage.

## QUALITY ASSURANCE

### Manufacturer: Products manufactured by one of the following shall be provided:

#### Carboline Company, Incorporated. (CC)

#### Sherwin Williams Company, Incorporated. (SW)

#### Tnemec Company, Incorporated. (TC)

#### Or equal.

### Applicator Qualifications:

#### The name and experience record of the painting applicator shall be supplied. A list of utility or industrial installations painted, responsible officials, architects, or engineers concerned with the project and the approximate contract price shall be included.

#### Painting applicators whose submissions indicate that they have not had the experience required to perform the Work will not be approved.

### Job Mockup: On actual wall surfaces and other exterior and interior building components as selected by the Resident Engineer, the Contractor shall duplicate painted finishes of the selected samples. On at least 20 square feet required sheen, color, and texture shall be obtained; finished lighting conditions shall be simulated for review of in-place work. After finishes are accepted these surfaces and components will be used for comparison in evaluation of other painting and finishing of a similar nature.

### All paint products shall be supplied by the same manufacturer unless otherwise approved.

### Reference Standards: Applicable provisions and recommendations of the following shall be complied with, except where otherwise shown or specified:

#### ANSI A13.1, Scheme for the Identification of Piping Systems.

#### Great Lakes - Upper Mississippi River Board of State Sanitary Engineers (Ten States Standards), Recommended Standards for Waste Treatment Works - Latest Edition, Recommended Color Scheme for Piping.

#### OSHA 1910.144 Safety Color Code for Marking Physical Hazards.

#### SSPC Volume 2, Systems and Specification, Surface Preparation Guide and Paint Application Specifications.

#### AWWA C550, Protective Interior Coatings for Valves and Hydrants.

## SUBMITTALS

### Samples: The following shall be submitted for approval:

#### Paint samples for the Resident Engineer’s review of color and texture only. Compliance with all other requirements is the exclusive responsibility of the Contractor. A listing of the material and application for each coat of each finish sample shall be supplied.

##### On 12-inch by 12-inch hardboard, samples of each color and material shall be provided, with texture to simulate actual conditions. Each sample shall be resubmitted as requested until acceptable sheen, color, and texture is achieved.

### Shop Drawings: The following shall be submitted for approval:

#### Copies of manufacturer’s technical information, including paint label analysis and application instructions for each material proposed for use.

#### Each material shall be listed and cross-referenced to the specific paint and finish system and application and shall be identified by manufacturer’s catalog number and general classification.

#### Copies of manufacturer’s complete color charts for each coating system.

#### Certifications from manufacturers shall be provided, verifying that the factory applied prime coats are compatible with specified finish coatings.

#### **Maintenance Manual:** Upon completion of the Work, copies of a detailed maintenance manual including the following information shall be furnished:

##### Product name and number.

##### Name, address and telephone number of manufacturer and local distributor.

##### Detailed procedures for routine maintenance and cleaning.

##### Detailed procedures for light repairs such as dents, scratches and staining.

## PRODUCT DELIVERY, STORAGE AND HANDLING

### Delivery of Materials: All materials shall be delivered to the job site in original, new and unopened packages and containers bearing manufacturer’s name and label, and the following information.

#### Name or title of material.

#### Manufacturer’s stock number and date of manufacture.

#### Manufacturer’s name.

#### Contents by volume, for major pigment and vehicle constituents.

#### Thinning instructions where recommended.

#### Application instructions.

#### Color name and number.

### Storage of Materials:

#### Only acceptable project materials shall be stored on project site.

#### The Contractor shall store in a suitable location approved by the Resident Engineer. This area shall be kept clean and accessible.

#### Storage shall be restricted to paint materials and related equipment.

#### Health and fire regulations shall be complied with, including the Occupational Safety and Health Act of 1970.

## JOB CONDITIONS

### Existing Conditions:

#### Before painting is started in any area, it shall be broom cleaned and excessive dust shall be removed.

#### After painting operations begin in each area, broom cleaning will not be allowed; cleaning shall then be done only with commercial vacuum cleaning equipment.

### Environmental Requirements:

#### Enamel paints shall be applied only when the temperature of the surfaces to be painted and the surrounding air temperatures are between 65 F and 95 F, unless otherwise permitted by the paint manufacturer’s printed instructions.

#### Paint shall not be applied in rain, fog, or mist; or when the relative humidity exceeds 85 percent; or to damp or wet surfaces.

#### Painting may be continued during inclement weather only if the areas and surfaces to be painted are enclosed and heated within the temperature limits specified by the paint manufacturer during application and drying periods, and there is no danger of condensation on the surfaces being painted.

#### Adequate illumination and ventilation shall be provided in all areas where painting operations are in progress.

### Protection: Finished Work of other trades and surfaces not being painted concurrently or not to be painted shall be covered or otherwise protected.

# prODUCTS

## MATERIAL QUALITY

### The best grade of the various types of coating suitable for use in waste water treatment plants, water treatment plants, pumping stations and resource recovery plants as regularly manufactured by acceptable paint material manufacturers shall be provided. Material not displaying the manufacturer’s identification as a standard, best-grade product will not be acceptable.

### Primers produced by the same manufacturer as the finish coats shall be provided. Use only thinners recommended by the paint manufacturer, and use only to recommended limits. The Resident Engineer’s approval shall be obtained prior to thinning any material.

### Paints of durable and washable quality shall be provided. Materials which will withstand normal washing as required to remove grease, oil, chemicals, etc., without showing discoloration, loss of gloss, staining, or other damage shall be used.

## SUBSTITUTIONS

### No substitutions shall be considered that decrease the film thickness, the number of coats, the surface preparation or the generic type of coating specified. Approved manufacturers must furnish the same color selection as the manufacturers specified, including accent color in all coating systems.

## CoLORS AND FINISHES

### Surface treatments, and finishes are shown under “Painting Systems” below. All substrates scheduled under “Painting Systems” shall be painted whether or not shown on the Drawings, or in Schedules, unless an item is specifically scheduled as not requiring the painting system scheduled below.

### Color Selection:

#### A maximum of 5 different colors shall be selected for the project, in addition to color coding of all piping and ducts.

#### The Resident Engineer reserves the right to select non-standard colors for all paint systems specified within the ability of the manufacturer to produce such non-standard colors. Selection of non-standard colors shall not be cause for the Contractor rejecting Resident Engineer’s color selections and the Contractor shall supply such colors at no additional expense to the Owner.

### The Contractor shall submit to the Resident Engineer an itemized schedule of the surfaces to be painted. After approval of submittals and prior to beginning work, Resident Engineer will note on the schedule the color to be furnished. Owner’s selected colors shall be provided by Contractor at no additional cost to Owner, regardless of color or whether those colors are standard for the proposed paint product.

### Color Coding: In general, all color coding of piping, ducts and equipment shall comply with applicable standards of ANSI A13.1 and OSHA 1910.144.

### Piping Color Code: Included in the Approved Materials List and to be selected by the Resident Engineer.

### Representative color shall be used when preparing samples for Resident Engineer’s review. Final acceptance of colors will be from samples applied on the job.

### Color Pigments: Pure, non-fading, applicable types to suit the substrates and service indicated.

#### **Lead:** Lead content shall not exceed amount permitted by federal, state and local government laws and regulations.

#### Paints specified for application on submerged concrete or metal in contact with potable water shall be approved by the NSF (Ref. NSF61).

### All painting systems specified are based on brush application unless otherwise indicated. Other mechanical techniques shall be submitted to the Resident Engineer for approval before these application techniques may be reflected in any paint schedules submitted by the Contractor. Submit proof of acceptability, of technique proposed, by the paint manufacturer selected.

## ARCHITECTURAL PAINTING SYSTEMS: INTERIOR

### Concrete or Concrete Masonry Units: Walls and Ceilings

#### SURFACE PREPARATION: Surfaces of concrete to be painted shall be dry and free of dust, dirt, grease, oil, and other foreign matter such as loose or granular material. Holes, cracks, joints and any surface defects shall be repaired and filled out flush and smooth with appropriate products, except where a priming coat may be recommended first by the manufacturer of the paint. Glaze and loose particles shall be removed by wire brushing. No evidence of curing compounds, release agents and the like will be acceptable.

#### Latex Acrylic Finish, LEED V4, Flat, Eg-Shel, Semi-Gloss, Gloss

##### **Prime Coat:** CMU: Acrylic Block Filler, 10 – 15 mils dft

###### CC: Sanitile 100

###### SW Preprite Block Filler

###### TC: Series 54

##### **Intermediate Coat:** Latex Acrylic, 1.5 – 2 mils dft

###### CC: 3359

###### SW ProMar 200 Zero

###### TC: Enduratone

##### **Finish Coat:** Latex Acrylic, 1.5 – 2 mils dft

###### CC: 3359

###### SW ProMar 200 Zero

###### TC: Enduratone

### Drywall or Plaster: Walls and Ceilings

#### **Surface Preparation:** Surfaces of drywall or plaster to be painted shall be dry and free of dust, dirt, and other foreign matter such as loose or granular material. Holes, cracks, joints and any surface defects shall be repaired and filled out flush and smooth with appropriate products, except where a priming coat may be recommended first by the manufacturer of the paint.

#### Latex Acrylic Finish, LEED V4, Flat, Eg-Shel, Semi-Gloss, Gloss

##### **Prime Coat:** Latex PVA Primer, 1.5 – 2 mils dft

###### CC: Sanitile 120

###### SW ProMar 200 Zero Primer

###### TC: Series 51

##### **Intermediate Coat:** Latex Acrylic, 1.5 – 2 mils dft

###### CC: 3359

###### SW ProMar 200 Zero

###### TC: Enduratone

##### **Finish Coat:** Latex Acrylic, 1.5 – 2 mils dft

###### CC: 3359

###### SW ProMar 200 Zero

###### TC: Enduratone

### Ferrous Metals: Hollow Metal Doors and Frames, Structural Steel, Miscellaneous Metals and Ferrous Piping

#### **Surface Preparation:** SSPC-SP 6 Commercial Blast, as specified in Section 3.02.B, or as otherwise recommended by the paint manufacturer. If proper installation of the coating system requires a more stringent surface preparation than is specified above, comply with manufacturer’s requirements at no additional cost to Owner.

#### High Density Acrylic Finish, LEED V4, Eg-Shel, Semi-Gloss, Gloss

##### **Prime Coat:** Rust Inhibitive Universal Acrylic Primer, 2 – 4 mils dft

###### CC: 3359

###### SW Pro Industrial ProCryl Primer

###### TC: Series 115

##### **Intermediate Coat:** High Density Acrylic, 2 – 4 mils dft

###### CC: 3359

###### SW Pro Industrial Acrylic

###### TC: Enduratone

##### **Finish Coat:** High Density Acrylic, 2 – 4 mils dft

###### CC: 3359

###### SW ProMar 200 Zero

###### TC: Enduratone

### Galvanized or Non-Ferrous Metals: Hollow Metal Doors and Frames, Structural Steel, Miscellaneous Metals and Piping

#### **Surface Preparation:** SSPC-SP 15 Brush Blast, as specified in Section 3.02.B, or as otherwise recommended by the paint manufacturer. If proper installation of the coating system requires a more stringent surface preparation than is specified above, comply with manufacturer’s requirements at no additional cost to Owner.

#### High Density Acrylic Finish, LEED V4, Eg-Shel, Semi-Gloss, Gloss

##### **Prime Coat:** Rust Inhibitive Universal Acrylic Primer, 2 – 4 mils dft

###### CC: 3359

###### SW Pro Industrial ProCryl Primer

###### TC: Series 115

##### **Intermediate Coat:** High Density Acrylic, 2 – 4 mils dft

###### CC: 3359

###### SW Pro Industrial Acrylic

###### TC: Enduratone

##### **Finish Coat:** High Density Acrylic, 2 – 4 mils dft

###### CC: 3359

###### SW Pro Industrial Acrylic

###### TC: Enduratone

### Wood: Opaque or Clear Finish

#### **Surface Preparation:** Painted Surfaces shall be sanded smooth and dusted clean. Nail holes, cracks, or other defects shall be carefully puttied after prime coat using putty which matches the color of the paint. Knots and sappy areas shall be covered with shellac or accepted knot sealer. Putty work shall be knifed; thumb puttying is not allowed. On painted and enameled work, exposed end grain shall be putty-glazed smooth and flush and shall be allowed to dry before the next coat.

#### High Density Acrylic Finish, LEED V4, Eg-Shel, Semi-Gloss, Gloss

##### **Prime Coat:** Rust Inhibitive Universal Acrylic Primer, 2 – 4 mils dft

###### CC: 3359

###### SW Pro Industrial ProCryl Primer

###### TC: Series 115

##### **Intermediate Coat:** High Density Acrylic, 2 – 4 mils dft

###### CC: 3359

###### SW Pro Industrial Acrylic

###### TC: Enduratone

##### **Finish Coat:** High Density Acrylic, 2 – 4 mils dft

###### CC: 3359

###### SW Pro Industrial Acrylic

###### TC: Enduratone

#### Clear Polyurethane Finish, Semi-Gloss, Gloss

##### **Prime Coat:** Stain as required.

###### SW Minwax Stain

##### **Intermediate Coat:** Clear Urethane

###### SW Minwax Polycrylic

##### **Finish Coat:** Clear Urethane

###### SW Minwax Polycrylic

## ARCHITECTURAL PAINTING SYSTEMS: EXTERIOR

### Concrete or Concrete Masonry Units: Walls and Ceilings (adjust to specific application)

#### **Surface Preparation:** Surfaces of concrete to be painted shall be dry and free of dust, dirt, grease, oil, and other foreign matter such as loose or granular material. Holes, cracks, joints and any surface defects shall be repaired and filled out flush and smooth with appropriate products, except where a priming coat may be recommended first by the manufacturer of the paint. Glaze and loose particles shall be removed by wire brushing. No evidence of curing compounds, release agents and the like will be acceptable.

#### Clear Anti-Graffiti Urethane Finish, number of coats and thickness as required by manufacturer for warranty.

##### **Prime Coat:** Monopole Elastoseal

##### **Intermediate Coat:** Monopole Permashield

##### **Finish Coat:** Monopole Permashield

#### Clear 100% silane waterproofing sealer, number of coats and thickness as required by manufacturer for warranty.

##### **Prime Coat:** Prosoco SL100

##### **Finish Coat:** Prosoco SL100

### Drywall or Plaster: Walls and Ceilings

#### **Surface Preparation:** Surfaces of drywall or plaster to be painted shall be dry and free of dust, dirt, and other foreign matter such as loose or granular material. Holes, cracks, joints and any surface defects shall be repaired and filled out flush and smooth with appropriate products, except where a priming coat may be recommended first by the manufacturer of the paint.

#### High Density Acrylic Finish, LEED V4, Eg-Shel, Semi-Gloss, Gloss

##### **Prime Coat:** Universal Acrylic Primer, 2 – 4 mils dft

###### CC: 3359

###### SW Pro Industrial ProCryl Primer

###### TC: Series 115

##### **Intermediate Coat:** High Density Acrylic, 2 – 4 mils dft

###### CC: 3359

###### SW Pro Industrial Acrylic

##### TC: Enduratone

##### **Finish Coat:** High Density Acrylic, 2 – 4 mils dft

###### CC: 3359

###### SW Pro Industrial Acrylic

###### TC: Enduratone

### Ferrous Metals: Hollow Metal Doors and Frames, and Miscellaneous Metals. (Refer to Process Coating Systems for Exterior Exposed Structural Steel, Valves, and Piping.)

#### **Surface Preparation:** SSPC-SP 6 Commercial Blast, as specified in Section 3.02.B, or as otherwise recommended by the paint manufacturer. If proper installation of the coating system requires a more stringent surface preparation than is specified above, comply with manufacturer’s requirements at no additional cost to Owner.

#### High Density Acrylic Finish, LEED V4, Eg-Shel, Semi-Gloss, Gloss

##### **Prime Coat:** Universal Acrylic Primer, 2 – 4 mils dft

###### CC: 3359

###### SW Pro Industrial ProCryl Primer

###### TC: Series 115

##### **Intermediate Coat:** High Density Acrylic, 2 – 4 mils dft

###### CC: 3359

###### SW Pro Industrial Acrylic

###### TC: Enduratone

##### **Finish Coat:** High Density Acrylic, 2 – 4 mils dft

###### CC: 3359

###### SW Pro Industrial Acrylic

###### TC: Enduratone

### Galvanized or Non-Ferrous Metals: Hollow Metal Doors and Frames, and Miscellaneous Metals. (Refer to Process Coating Systems for Exterior Exposed Structural Steel, Valves, and Piping. Miscellaneous Metals and Ferrous Piping.)

#### **Surface Preparation:** SSPC-SP 15 Brush Blast, as specified in Section 3.02.B, or as otherwise recommended by the paint manufacturer. If proper installation of the coating system requires a more stringent surface preparation than is specified above, comply with manufacturer’s requirements at no additional cost to Owner.

#### High Density Acrylic Finish, LEED V4, Eg-Shel, Semi-Gloss, Gloss

##### **Prime Coat:** Rust Inhibitive Universal Acrylic Primer, 2 – 4 mils dft

###### CC: 3359

###### SW Pro Industrial ProCryl Primer

###### TC: Series 115

##### **Intermediate Coat:** High Density Acrylic, 2 – 4 mils dft

###### CC: 3359

###### SW Pro Industrial Acrylic

###### TC: Enduratone

##### **Finish Coat:** High Density Acrylic, 2 – 4 mils dft

###### CC: 3359

###### SW Pro Industrial Acrylic

###### TC: Enduratone

### Wood: Opaque or Clear Finish

#### **Surface Preparation:** Painted Surfaces shall be sanded smooth and dusted clean. Nail holes, cracks, or other defects shall be carefully puttied after prime coat using putty which matches the color of the paint. Knots and sappy areas shall be covered with shellac or accepted knot sealer. Putty work shall be knifed; thumb puttying is not allowed. On painted and enameled work, exposed end grain shall be putty-glazed smooth and flush and shall be allowed to dry before the next coat.

#### High Density Acrylic Finish, LEED V4, Eg-Shel, Semi-Gloss, Gloss

##### **Prime Coat:** Rust Inhibitive Universal Acrylic Primer, 2 – 4 mils dft

###### CC: 3359

###### SW Pro Industrial ProCryl Primer

###### TC: Series 115

##### **Intermediate Coat:** High Density Acrylic, 2 – 4 mils dft

###### CC: 3359

###### SW Pro Industrial Acrylic

###### TC: Enduratone

##### **Finish Coat:** High Density Acrylic, 2 – 4 mils dft

###### CC: 3359

###### SW Pro Industrial Acrylic

###### TC: Enduratone

#### Clear Polyurethane Finish, Semi-Gloss, Gloss

##### **Prime Coat:** Stain as required.

###### SW Minwax Stain

##### **Intermediate Coat:** Clear Urethane

###### SW Minwax Polycrylic

##### **Finish Coat:** Clear Urethane

###### SW Minwax Polycrylic

## PROCESS COATING SYSTEMS: INTERIOR

### Concrete or Concrete Masonry Units: Walls and Ceilings

#### **Surface Preparation:** Surfaces of concrete to be painted shall be dry and free of dust, dirt, grease, oil, and other foreign matter such as loose or granular material. Holes, cracks, joints and any surface defects shall be repaired and filled out flush and smooth with appropriate products, except where a priming coat may be recommended first by the manufacturer of the paint. Glaze and loose particles shall be removed by wire brushing. No evidence of curing compounds, release agents and the like will be acceptable.

#### Epoxy Finish, Semi-Gloss

##### **Prime Coat:** CMU: Acrylic Block Filler, 10 – 15 mils dft

###### CC Sanitile 100

###### SW Pro Industrial HD Block Filler

###### TC Series 54

##### **Intermediate Coat:** Epoxy, 5 - 10 mils dft

###### CC 890

###### SW Macropoxy 646-100

###### TC Series 140

##### **Finish Coat:** Epoxy, 5 - 10 mils dft

###### CC 890

###### SW Macropoxy 646-100

###### TC Series 140

### Concrete Floors: Pedestrian and Cart Traffic, Chemical Resistant

#### **Surface Preparation:** Surfaces of concrete to be painted shall be dry and free of dust, dirt, grease, oil, and other foreign matter such as loose or granular material. Holes, cracks, joints and any surface defects shall be repaired and filled out flush and smooth with appropriate products, except where a priming coat may be recommended first by the manufacturer of the paint. Glaze and loose particles shall be removed by wire brushing. No evidence of curing compounds, release agents and the like will be acceptable. Concrete surface profile shall be CSP 2 – 3 per ICRI 310.2

#### 100% VS Novolac Epoxy Finish, Gloss

##### **Prime Coat:** MVE Resistant Epoxy, 10 – 15 mils dft:

###### CC: Carboseal 745

###### SW Resuprime MVT

###### TC Epoxoprime 203

##### **Intermediate Coat:** Novolac Epoxy, 10 - 15 mils dft

###### CC: Semstone 145

###### SW Resuflor 3741

###### TC Series 282

##### **Finish Coat:** Novolac Epoxy, 10 - 15 mils dft

###### CC: Semstone 145

###### SW Resuflor 3741

###### TC Series 282

### Drywall or Plaster: Walls and Ceilings

#### **Surface Preparation:** Surfaces of drywall or plaster to be painted shall be dry and free of dust, dirt, and other foreign matter such as loose or granular material. Holes, cracks, joints and any surface defects shall be repaired and filled out flush and smooth with appropriate products, except where a priming coat may be recommended first by the manufacturer of the paint.

#### Epoxy Finish, Semi-Gloss

##### **Prime Coat:** Latex Acrylic Primer, 1.5 - 2 mils dft

###### CC 3359

###### SW Pro Mar 200 Zero Primer

###### TC Series 115

##### **Intermediate Coat:** Epoxy, 5 - 10 mils dft

###### CC 890

###### SW Macropoxy 646-100

###### TC Series 140

##### **Finish Coat:** Epoxy, 5 - 10 mils dft

###### CC 890

###### SW Macropoxy 646-100

###### TC Series 140

### Ferrous Metals: Hollow Metal Doors and Frames

#### **Surface Preparation:** SSPC-SP 6 Commercial Blast, as specified in Section 3.02.B, or as otherwise recommended by the paint manufacturer. If proper installation of the coating system requires a more stringent surface preparation than is specified above, comply with manufacturer’s requirements at no additional cost to Owner.

#### Waterbased Acrylic Polyurethane Finish, LEED V4

##### **Prime Coat:** Rust Inhibitive Acrylic Primer, 2 – 4 mils dft:

###### CC 3359

###### SW Pro Industrial ProCryl Primer

###### TC Series 115

##### **Intermediate Coat:** Waterbased Polyurethane 2 – 4 mils dft:

###### CC 134 WB

###### SW Pro Industrial WB Acrolon 100

###### TC Series 1081

##### **Finish Coat:** Waterbased Polyurethane 2 – 4 mils dft:

###### CC 134 WB

###### SW Pro Industrial WB Acrolon 100

###### TC Series 1081

### Ferrous Metals: Structural Steel, Miscellaneous Metals, and Piping

#### **Surface Preparation:** SSPC-SP 6 Commercial Blast, as specified in Section 3.02.B, or as otherwise recommended by the paint manufacturer. If proper installation of the coating system requires a more stringent surface preparation than is specified above, comply with manufacturer’s requirements at no additional cost to Owner.

#### Epoxy Finish, Semi-Gloss

##### **Prime Coat:** Epoxy, 4 – 8 mils dft

###### CC 890

###### SW Macropoxy 646-100

###### TC Series 140

##### **Intermediate Coat:** Epoxy, 4 – 8 mils dft

###### CC 890

###### SW Macropoxy 646-100

###### TC Series 140

##### **Finish Coat:** Epoxy, 4 – 8 mils dft

###### CC 890

###### SW Macropoxy 646-100

###### TC Series 140

### Ferrous Metals: Valves

#### **Surface Preparation:** SSPC-SP 6 Commercial Blast, as specified in Section 3.02.B, or as otherwise recommended by the paint manufacturer. If proper installation of the coating system requires a more stringent surface preparation than is specified above, comply with manufacturer’s requirements at no additional cost to Owner.

##### Valve manufacturer shall provide equipment prepared and shop primed with specified epoxy primer or equivalent two component epoxy. (Refer to Process Coating Systems: Immersion for acceptable valve interior lining materials.)

##### Shop applied primers shall be thoroughly cleaned and abraded prior to application of field coatings.

##### Repair damaged substrate and spot prime exposed surfaces. Omit field applied prime coat when items are properly shop primed.

#### Epoxy Finish, Semi-Gloss

##### **Prime Coat:** Epoxy, 4 – 8 mils dft

###### CC 890

###### SW Macropoxy 646-100

###### TC Series 140

##### **Intermediate Coat:** Epoxy, 4 – 8 mils dft

###### CC 890

###### SW Macropoxy 646-100

###### TC Series 140

##### **Finish Coat:** Epoxy, 4 – 8 mils dft

###### CC 890

###### SW Macropoxy 646-100

###### TC Series 140

### Galvanized or Non-Ferrous Metals: Structural Steel, Miscellaneous Metals and Piping

#### **Surface Preparation:** SSPC-SP 15 Brush Blast, as specified in Section 3.02.B, or as otherwise recommended by the paint manufacturer. If proper installation of the coating system requires a more stringent surface preparation than is specified above, comply with manufacturer’s requirements at no additional cost to Owner.

#### Epoxy Finish, Semi-Gloss

##### **Prime Coat:** Epoxy, 4 – 8 mils dft

###### CC 890

###### SW Macropoxy 646-100

###### TC Series 140

##### **Intermediate Coat:** Epoxy, 4 – 8 mils dft

###### CC 890

###### SW Macropoxy 646-100

###### TC Series 140

##### **Finish Coat:** Epoxy, 4 – 8 mils dft

###### CC 890

###### SW Macropoxy 646-100

###### TC Series 140

### Wood: Opaque Finish

#### **Surface Preparation:** Painted Surfaces shall be sanded smooth and dusted clean. Nail holes, cracks, or other defects shall be carefully puttied after prime coat using putty which matches the color of the paint. Knots and sappy areas shall be covered with shellac or accepted knot sealer. Putty work shall be knifed; thumb puttying is not allowed. On painted and enameled work, exposed end grain shall be putty-glazed smooth and flush and shall be allowed to dry before the next coat.

#### High Density Acrylic Finish, LEED V4, Eg-Shel, Semi-Gloss, Gloss

##### **Prime Coat:** Rust Inhibitive Universal Acrylic Primer, 2 – 4 mils dft

###### CC: 3359

###### SW Pro Industrial ProCryl Primer

###### TC: Series 115

##### **Intermediate Coat:** High Density Acrylic, 2 – 4 mils dft

###### CC: 3359

###### SW Pro Industrial Acrylic

###### TC: Enduratone

##### **Finish Coat:** High Density Acrylic, 2 – 4 mils dft

###### CC: 3359

###### SW Pro Industrial Acrylic

###### TC: Enduratone

## PROCESS COATING SYSTEMS: EXTERIOR

### Concrete or Concrete Masonry Units: Walls and Ceilings, Wet

#### **Surface Preparation:** Surfaces of concrete to be painted shall be dry and free of dust, dirt, grease, oil, and other foreign matter such as loose or granular material. Holes, cracks, joints and any surface defects shall be repaired and filled out flush and smooth with appropriate products, except where a priming coat may be recommended first by the manufacturer of the paint. Glaze and loose particles shall be removed by wire brushing. No evidence of curing compounds, release agents and the like will be acceptable.

#### Polysiloxane or Polycarbamide Finish, Semi-Gloss

##### **Prime Coat:** CMU: Acrylic Block Filler, 10 – 15 mils dft

###### CC: Sanitile

###### SW Pro Industrial HD Block Filler

###### TC Series 54

##### **Intermediate Coat:** Epoxy, 5 - 10 mils dft

###### CC 890

###### SW Macropoxy 646-100 Epoxy

###### TC Series 140

##### **Finish Coat:** Polysiloxane, 4 - 6 mils dft

###### CC Carboxane

###### SW SherLoxane 800 Polysiloxane

###### TC Series 750

### Concrete or Concrete Masonry Units: Walls and Ceilings (adjust to specific application)

#### **Surface Preparation:** Surfaces of concrete to be painted shall be dry and free of dust, dirt, grease, oil, and other foreign matter such as loose or granular material. Holes, cracks, joints and any surface defects shall be repaired and filled out flush and smooth with appropriate products, except where a priming coat may be recommended first by the manufacturer of the paint. Glaze and loose particles shall be removed by wire brushing. No evidence of curing compounds, release agents and the like will be acceptable.

#### Clear Anti-Graffiti Urethane Finish, number of coats and thickness as required by manufacturer for warranty.

##### **Prime Coat:** Monopole Elastoseal

##### **Intermediate Coat:** Monopole Permashield

##### **Finish Coat:** Monopole Permashield

#### Clear 100% silane waterproofing sealer, number of coats and thickness as required by manufacturer for warranty.

##### **Prime Coat:** Prosoco SL100

##### **Finish Coat:** Prosoco SL100

### Concrete Chemical Containment: Heavy Load, Truck Traffic

#### **Surface Preparation:** Surfaces of concrete to be painted shall be dry and free of dust, dirt, grease, oil, and other foreign matter such as loose or granular material. Holes, cracks, joints and any surface defects shall be repaired and filled out flush and smooth with appropriate products, except where a priming coat may be recommended first by the manufacturer of the paint. Glaze and loose particles shall be removed by wire brushing. No evidence of curing compounds, release agents and the like will be acceptable. Concrete surface profile shall be CSP 3 - 5 per ICRI 310.2

#### Urethane Concrete Basecoat, Laminate Reinforced, Novolac Epoxy Finish, Gloss

##### Urethane Concrete Mortar Basecoat, ¼ inch:

###### SW Fastop Multi Top SL45

###### TC Series 244

##### Laminate / Saturant Coat: with 1.5-ounce Type CR fiberglass mat reinforcement, 20 – 30 mils dft

###### SW Cor Cote HP

###### TC Series 282

Broadcast 30/40 mesh aluminum oxide into wet film of saturant for non-skid texture

##### **Finish Coat:** Novolac, 15 - 20 mils dft

###### SW Cor Cote EN7000

###### TC Series 282

### Concrete Floors: Pedestrian and Cart Traffic, Chemical Resistant

#### **Surface Preparation:** Surfaces of concrete to be painted shall be dry and free of dust, dirt, grease, oil, and other foreign matter such as loose or granular material. Holes, cracks, joints and any surface defects shall be repaired and filled out flush and smooth with appropriate products, except where a priming coat may be recommended first by the manufacturer of the paint. Glaze and loose particles shall be removed by wire brushing. No evidence of curing compounds, release agents and the like will be acceptable. Concrete surface profile shall be CSP 2 – 3 per ICRI 310.2

#### 100% VS Chemical Resistant Urethane Finish, Gloss

##### **Prime Coat:** MVE Tolerant Epoxy Primer, 10 – 15 mils dft

###### SW Resuprime MVT

###### TC Series 203

##### **Intermediate Coat:** 100% VS Epoxy, 10 - 15 mils dft:

###### SW Resuflor 3746

###### TC 282

##### **Finish Coat:** Chemical / UV Resistant Urethane, 3 - 5 mils dft

###### SW Resutile 4685

###### TC Series 292

### Drywall or Plaster: Walls and Ceilings, Wet

#### **Surface Preparation:** Surfaces of drywall or plaster to be painted shall be dry and free of dust, dirt, and other foreign matter such as loose or granular material. Holes, cracks, joints and any surface defects shall be repaired and filled out flush and smooth with appropriate products, except where a priming coat may be recommended first by the manufacturer of the paint.

#### Polysiloxane or Polycarbamide Finish, Semi-Gloss

##### **Prime Coat:** Epoxy, 2 - 4 mils dft

###### CC 890

###### SW Macropoxy 646-100 Epoxy

###### TC N140

##### **Intermediate Coat:** Epoxy, 5 - 10 mils dft

###### CC 890

###### SW Macropoxy 646-100

###### TC 140

##### **Finish Coat:** Polysiloxane, 4 - 6 mils dft:

###### CC Carboxane 2100

###### SW SherLoxane 800

###### TC 750

### Ferrous Metals: Hollow Metal Doors and Frames.

#### **Surface Preparation:** SSPC-SP 6 Commercial Blast, as specified in Section 3.02.B, or as otherwise recommended by the paint manufacturer. If proper installation of the coating system requires a more stringent surface preparation than is specified above, comply with manufacturer’s requirements at no additional cost to Owner.

#### Waterbased Acrylic Polyurethane Finish, LEED V4,

##### **Prime Coat:** Rust Inhibitive Acrylic Primer, 2 – 4 mils dft:

###### CC 3359

###### SW Pro Industrial ProCryl Primer

###### TC Series 115

##### **Intermediate Coat:** Waterbased Polyurethane 2 – 4 mils dft:

###### CC 134 WB

###### SW Pro Industrial WB Acrolon 100

###### TC Series 1081

##### **Finish Coat:** Waterbased Polyurethane 2 – 4 mils dft:

###### CC 134 WB

###### SW Pro Industrial WB Acrolon 100

###### TC Series 1081

### Ferrous Metals: Structural Steel, Miscellaneous Metals, and Piping

#### **Surface Preparation:** SSPC-SP 6 Commercial Blast, as specified in Section 3.02.B, or as otherwise recommended by the paint manufacturer. If proper installation of the coating system requires a more stringent surface preparation than is specified above, comply with manufacturer’s requirements at no additional cost to Owner.

#### Polysiloxane or Polycarbamide Finish, Semi-Gloss

##### **Prime Coat:** Epoxy, 4 - 8 mils dft

###### CC 890

###### SW Macropoxy 646-100 Epoxy

###### TC N140

##### **Intermediate Coat:** Epoxy, 4 - 8 mils dft

###### CC 890

###### SW Macropoxy 646-100

###### TC 140

##### **Finish Coat:** Polysiloxane, 4 - 6 mils dft:

###### CC Carboxane 2100

###### SW SherLoxane 800

###### TC 750

### Ferrous Metals: Valves

#### **Surface Preparation:** SSPC-SP 6 Commercial Blast, as specified in Section 3.02.B, or as otherwise recommended by the paint manufacturer. If proper installation of the coating system requires a more stringent surface preparation than is specified above, comply with manufacturer’s requirements at no additional cost to Owner.

##### Valve manufacturer shall provide equipment prepared and shop primed with specified epoxy primer or equivalent two component epoxy. Refer to Process Coating Systems: Immersion for acceptable valve interior lining materials.

##### Shop applied primers shall be thoroughly cleaned and abraded prior to application of field coatings.

##### Repair damaged substrate and spot prime exposed surfaces. (Omit field applied intermediate coat when items are properly shop primed.)

#### Polysiloxane or Polycarbamide Finish, Semi-Gloss

##### **Prime Coat:** Epoxy, 4 - 8 mils dft

###### CC 890

###### SW Macropoxy 646-100

###### TC N140

##### **Intermediate Coat:** Epoxy, 4 - 8 mils dft

###### CC 890

###### SW Macropoxy 646-100

###### TC 140

##### **Finish Coat:** Polysiloxane, 4 - 6 mils dft:

###### CC Carboxane 2100

###### SW SherLoxane 800

###### TC 750

### Galvanized or Non-Ferrous Metals: Structural Steel, Miscellaneous Metals and Piping

#### **Surface Preparation:** SSPC-SP 15 Brush Blast, as specified in Section 3.02.B, or as otherwise recommended by the paint manufacturer. If proper installation of the coating system requires a more stringent surface preparation than is specified above, comply with manufacturer’s requirements at no additional cost to Owner.

#### Polysiloxane or Polycarbamide Finish, Semi-Gloss

##### **Prime Coat:** Epoxy, 4 - 8 mils dft

###### CC 890

###### SW Macropoxy 646-100 Epoxy

###### TC N140

##### **Intermediate Coat:** Epoxy, 4 - 8 mils dft

###### CC 890

###### SW Macropoxy 646-100

###### TC 140

##### **Finish Coat:** Polysiloxane, 4 - 6 mils dft:

###### CC Carboxane 2100

###### SW SherLoxane 800

###### TC 750

### Wood, Opaque Finish

#### **Surface Preparation:** Painted Surfaces shall be sanded smooth and dusted clean. Nail holes, cracks, or other defects shall be carefully puttied after prime coat using putty which matches the color of the paint. Knots and sappy areas shall be covered with shellac or accepted knot sealer. Putty work shall be knifed; thumb puttying is not allowed. On painted and enameled work, exposed end grain shall be putty-glazed smooth and flush and shall be allowed to dry before the next coat.

#### High Density Acrylic Finish, LEED V4, Eg-Shel, Semi-Gloss, Gloss

##### **Prime Coat:** 2 – 4 mils dft: SW Premium Wall and Wood Primer

##### **Intermediate Coat:** 2 – 4 mils dft: SW Pro Industrial Acrylic

##### **Finish Coat:** 2 – 4 mils dft: SW Pro Industrial Acrylic

## PROCESS COATING SYSTEMS: BURIED

### Concrete or Concrete Masonry Units: Walls (exterior, below grade)

#### **Surface Preparation:** Refer to Section 09800 for all concrete or CMU structures scheduled for immersion lining application.

### Ferrous Metals: Pipes, Valves, Miscellaneous Structures

#### **Surface Preparation:** SSPC-SP 10 Near-White Blast Cleaning as specified in Sections 3.02.B.2 and 3.02.B.4, or as otherwise recommended by the paint manufacturer. If proper installation of the coating system requires a more stringent surface preparation than is specified above, comply with manufacturer’s requirements at no additional cost to Owner.

##### Finish all field cuts and damages to the coating shall be repaired with 24 mils (MDFT) of approved coating material. All foreign matter shall be removed by wire brush or sandpaper prior to the epoxy application.

##### Contractor shall comply with the requirements stated in Special Provisions 207-9.2.7 which requires one of the following types of coating systems:

#### 100% VS Epoxy Finish, AWWA C210

##### **Finish Coat:** 24 - 38 mils dft:

###### Plasite 4500

###### SW Duraplate UHS or Sherplate PW

###### TC Series 22

#### Heat Shrink Tape System, AWWA C216

##### Coating Material:

#### Cold Applied Petrolatum Wax Tape, AWWA C217

##### Coating Material:

## PROCESS COATING SYSTEMS: IMMERSED, OR SUBMERGED

### Concrete or Concrete Masonry Units: Walls and Ceilings

#### Refer to Section 09 98 00 for all concrete or CMU structures scheduled for immersion lining application.

### Ferrous Metals: Pipe Interior or Exterior Surfaces, Valve Exterior Surfaces, Potable or Reclaimed Water

#### **Surface Preparation:** SSPC-SP 10 Near-White Blast Cleaning as specified in Sections 3.02.B.2 and 3.02.B.4, or as otherwise recommended by the paint manufacturer. If proper installation of the coating system requires a more stringent surface preparation than is specified above, comply with manufacturer’s requirements at no additional cost to Owner.

#### 100% VS Epoxy Finish, NSF 600

##### **Finish Coat:** 18 - 24 mils dft

###### CC Plascite 4500

###### SW Duraplate UHS or Sherplate PW

###### TC Series 22

#### High Solids Epoxy Finish, NSF 61

##### **Prime Coat:** 5 – 8 mils dft

###### CC 891

###### SW Tank Clad HS, Sherplate 360

###### TC Series 140

##### **Intermediate Coat:** 5 - 8 mils dft

###### CC 891

###### SW Tank Clad HS, Sherplate 360

###### TC Series 140

##### Finish Coat: 5 – 8 mils dft

###### CC 891

###### SW Tank Clad HS, Sherplate 360

###### TC Series 140

### Ferrous Metals: Pipe Interior or Exterior Surface, Valve Exterior Surface, Wastewater or Raw Sewage

#### **Surface Preparation:** SSPC-SP 10 Near-White Blast Cleaning as specified in Sections 3.02.B.2 and 3.02.B.4, or as otherwise recommended by the paint manufacturer. If proper installation of the coating system requires a more stringent surface preparation than is specified above, comply with manufacturer’s requirements at no additional cost to Owner.

#### 100% VS Epoxy Finish

##### **Finish Coat:** 18 - 24 mils dft:

###### Protecto Coat 401

###### SW Pipeclad 5000

#### Flake Reinforced Epoxy Finish

##### **Prime Coat:** 10 – 18 mils dft

###### SW Sherglass FF Epoxy

##### **Finish Coat:** 10 – 18 mils dft

###### SW Sherglass FF Epoxy

### Ferrous Metals: Tank or Vessel Interior; Related Structural Steel, Steel Plate, and Piping, Potable or Reclaimed Water.

#### **Surface Preparation:** SSPC-SP 10 Near-White Blast Cleaning as specified in Sections 3.02.B.2 and 3.02.B.4, or as otherwise recommended by the paint manufacturer. If proper installation of the coating system requires a more stringent surface preparation than is specified above, comply with manufacturer’s requirements at no additional cost to Owner.

#### MCU Zinc Primer, 100% VS Epoxy Finish, NSF 600

##### **Prime Coat:** MCU Zinc Primer, 2 – 4 mils dft

###### CC

###### SW Corothane Galvapac 2K 100 MCU Zinc Rich Primer

###### TC Series 94H2O

##### **Finish Coat:** 18 - 24 mils dft:

###### CC Plasite 4500

###### SW Duraplate UHS or Sherplate PW

###### TC Series 20 or 22

### Ferrous Metals: Valves; Interior Lined Surfaces

#### **Interior Lining:** Valves 4 inches and larger shall be lined as specified herein, except for seating areas, and bronze and stainless-steel components. Sandblast surfaces in accordance with SSPC-SP-10 (near white blast cleaning). Remove all protuberances which may produce pinholes in the lining. Round all sharp edges to be lined. Remove any contaminants which may prevent bonding of the lining. Line interior ferrous surfaces using one of the following methods,

#### Powdered Thermoset Epoxy

##### **Finish Coat:** 12 - 18 mils dft: SW PipeClad 704G

#### 100% VS Epoxy, AWWA C210

##### **Finish Coat:** 12 - 18 mils dft

###### Plascite 4500

###### SW Duraplate UHS or Sherplate PW

###### TC Series 20 or 22

#### High Solids Epoxy, AWWA C210

##### **Prime Coat:** 6 - 8 mils dft

###### CC 891

###### SW Tank Clad HS

###### TC 140

##### Finish Coat

###### CC 891

###### SW Tank Clad HS

###### TC Series 140

# EXECUTION

## INSPECTION

### The Contractor and his applicator shall examine the areas and conditions under which painting work is to be performed and notify the Resident Engineer in writing of conditions detrimental to the proper and timely completion of the Work. The Contractor shall not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Resident Engineer.

### The Contractor shall not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions otherwise detrimental to the formation of a durable paint film.

## SURFACE PREPARATION

### General:

#### All preparation and cleaning procedures shall be performed as specified herein and in strict accordance with the paint manufacturer’s instructions for each particular substrate and atmospheric condition.

#### All hardware, hardware accessories, machined surfaces, plates, lighting fixtures, and similar items in place and not to be finish painted shall be removed or provided surface applied protection prior to surface preparation and painting operations. The Contractor shall remove, if necessary, for the complete painting of the items and adjacent surfaces. Following completion of painting of each space or area, the removed items shall be reinstalled by workmen skilled in the trades involved.

#### Surfaces to be painted shall be cleaned before applying paint or surface treatments. Oil and grease shall be removed with clean cloths and cleaning solvents prior to mechanical cleaning. The cleaning and painting shall be programmed so that dust and other contaminants from the cleaning process will not fall in wet, newly painted surfaces.

#### All surfaces which were not shop painted or which were improperly shop painted, and all abraded or rusted shop painted surfaces, which are to be painted, as determined by the Resident Engineer, shall be prepared as specified below.

### Ferrous Metals:

#### Non-submerged ferrous surfaces, including structural steel and miscellaneous metal to be shop primed, shall be cleaned of all oil, grease, dirt, mill scale and other foreign matter by commercial blast cleaning complying with SSPC-SP 6.

#### Submerged ferrous surfaces, including structural steel and miscellaneous metal to be shop primed, shall be cleaned of all oil, grease, dirt, mill scale and other foreign matter by near-white blasting complying with SSPC-SP 10.

#### Non-submerged, ferrous surfaces that have not been shop-coated shall be cleaned of all oil, grease, dirt, loose mill scale and other foreign substances by commercial blasting, complying with SSPC-SP 6.

#### Submerged ferrous surfaces that have not been shop-coated or that, in the opinion of the Resident Engineer, have been improperly shop-coated, shall be cleaned of all oil, grease, dirt, mill scale and other foreign matter by near-white blasting complying with SSPC-SP 10.

#### Bare and blasted or pickled clean metal shall be treated with metal treatment wash coat, prior to priming only if recommended by the paint manufacturer.

#### Shop applied prime coats which have been damaged or bare areas shall be touched-up with primer recommended by the coating manufacturer after commercial blasting complying with SSPC-SP 6.

### Non-Ferrous Metal Surfaces: Non-ferrous metal surfaces shall be cleaned in accordance with the coating system manufacturer’s instructions for the type of service, metal substrate, and application required.

### Galvanized Surfaces:

#### The Contractor shall clean galvanized surfaces to be free of oil and surface contaminants with solvent or other methods recommended by the coating manufacturer, complying with SSPC-SP 1.

#### Submerged or intermittently submerged galvanized ferrous metal, interior and exterior, shall be cleaned of all oil, grease, dirt, mill scale and other foreign matter by a brush-off blast cleaning complying with SSPC-SP 7 with one mil profile minimum.

## MATERIALS PREPARATION

### General:

#### Painting materials shall be mixed and prepared in strict accordance with the manufacturer’s directions.

#### Coating materials produced by different manufacturers shall not be mixed, unless otherwise permitted by the manufacturer’s instructions.

#### Materials not in actual use shall be stored in tightly covered containers. Containers used in storage, mixing, and application of paint shall be maintained in a clean condition, free of foreign materials and residue.

#### All materials shall be stirred before application to produce a mixture of uniform density, and as required during the application of the materials. Any film which may form on the surface shall not be stirred into the material. The film shall be removed and, if necessary, the material shall be strained before using.

### Tinting: Each undercoat shall be tinted a lighter shade to facilitate identification of each coat where multiple coats of the same material are to be applied. Undercoats shall be tinted to match the color of the finish coat, but provide sufficient difference in shade of undercoats to distinguish each separate coat. A code number shall be provided to identify material tinted by the manufacturer.

### Mixing:

#### The Contractor shall mix only in mixing pails placed in a suitably sized non-ferrous or oxide resistant metal pan to protect concrete floor from splashes or spills which could stain exposed concrete or react with subsequent finish floor material.

#### Paint shall be mixed and applied only in containers bearing accurate product name of material being mixed or applied.

## APPLICATION

### General:

#### Paint shall be applied by brush or other mechanical application techniques such as roller, air spray, or airless spray in accordance with the manufacturer’s directions and recommendations of Paint Application Specifications No. 1 in SSPC Vol. 2, where applicable, as approved by the Resident Engineer. Brushes best suited for the type of material being applied shall be used. Where approved by the Resident Engineer, rollers of carpet, velvet back, or high pile sheep’s wool shall be used, as recommended by the paint manufacturer for material and texture required.

#### The number of coats and paint film thickness required is the same regardless of the application method. Succeeding coats shall not be applied until the previous coat has completely dried.

#### Additional coats shall be applied when undercoats or other conditions show through the final coat of paint, until the paint film is of uniform finish, color and appearance. This is of particular importance regarding intense primary accent colors. The Contractor shall insure that all surfaces, including edges, corners, crevices, welds, and exposed fasteners receive a film thickness equivalent to that of flat surfaces.

#### Surfaces not exposed to view do not require color coding but require the same coating systems specified for exposed surfaces. “Exposed to view surfaces” is defined as those areas visible when permanent or built-in fixture, convector covers, covers for finned tube radiation, grilles, etc., are in place in areas scheduled to be painted.

#### The backs of access panels and removable or hinged covers shall be painted to match the exposed surfaces.

#### Exterior doors on tops, bottoms, and side edges shall be finished the same as the exterior faces.

#### Aluminum parts in contact with dissimilar materials shall be painted as specified with appropriate finish.

### Heating, Ventilating, Air Conditioning and Electrical Work:

#### Heating, ventilating, and air conditioning items to be painted include, but are not limited to, the following:

##### Piping, pipe hangers, and supports.

##### Ductwork and insulation.

##### Motors, mechanical equipment, and supports.

##### Accessory items

#### Electrical items to be painted include, but are not limited to, the following:

##### Conduit and fittings.

##### Switchgear, panels, junction boxes, motor control centers, motors and accessories.

### Minimum Coating Thickness: The Contractor shall apply each material at not less than the manufacturer’s recommended spreading rate, and provide total dry film thickness as specified. Extra coats shall be applied if required to obtain specified total dry film thickness.

### Scheduling Painting:

#### The first-coat material shall be applied to surfaces that have been cleaned, pretreated or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.

#### Sufficient time between successive coating shall be allowed to permit proper drying. The Contractor shall not recoat until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and the application of another coat of paint does not cause lifting of loss of adhesion of the undercoat.

### Prime Coats: Primed and sealed walls and ceilings shall be recoated where there is evidence of suction spots or unsealed areas in first coat, to assure a finish coat with no burn-through or other defects caused by insufficient sealing.

### Pigmented (Opaque) Finished: The Contractor shall completely cover to provide an opaque, smooth surface of uniform finish, color, appearance, and coverage.

### Brush Application:

#### All brush coats shall be brushed-out and worked onto the surfaces in an even film. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable. All glass and color break lines shall be neatly drawn.

#### All primer or first coats shall be brush applied, unless otherwise permitted to use mechanical applicators.

### Mechanical Applicators:

#### Mechanical methods shall be used for paint application when permitted by governing ordinances, paint manufacturer, and approved by Resident Engineer. If permitted, it shall be limited to only those surfaces impracticable for brush applications.

#### Roller applications, if approved by the Resident Engineer, shall be limited to interior wall and ceiling finishes for second and third coats. Each roller coat shall be applied to provide the equivalent hiding as brush-applied coats.

#### Spray application shall be confined to metal framework, siding, and similar surfaces where hand brush work would be inferior and to other surfaces specifically recommended by paint manufacturer.

#### Wherever spray application is used, each coat shall be applied to provide the equivalent hiding of brush-applied coats. Do not double back with spray equipment for the purpose of building up film thickness of 2 coats in one pass.

### Completed Work: The Contractor shall match approved samples for color, texture and coverage. Work not in compliance with specified requirements shall be removed, refinished or repainted, as required by the Resident Engineer.

## FIELD QUALITY CONTROL

### The right is reserved by the Resident Engineer to invoke the following material testing procedure at any time, and any number of times during the period of field painting:

#### Engage the service of an independent testing laboratory to sample any of the paint being used. Samples of materials delivered to the project site will be taken, identified and sealed, and certified in the presence of the Contractor.

#### The testing laboratory will perform appropriate tests for any or all of the following characteristics: Abrasion resistance, apparent reflectivity, flexibility, washability, absorption, accelerated weathering, dry opacity, accelerated yellowness, recoating, skinning, color retention, alkali resistance and quantative material analysis.

#### If the test results show that the material being used does not comply with the specified requirements, the Contractor may be directed to stop the painting Work, and remove the non-complying paint; pay for testing; repaint surfaces coated with the rejected paint; remove rejected paint from previously painted surfaces if, upon repainting with the specified paint, the two coatings are non-compatible.

### Prior to initial coat and after completion of each successive coat of paint, the Contractor shall notify the Resident Engineer. After inspection, checking of film thickness and approval by the Resident Engineer, proceed with the succeeding coat. Contractor shall supply the Resident Engineer for his use a Gardner dry-film thickness gauge.

## PROTECTION

### Work of other trades shall be protected, whether to be painted or not, against damage by the painting and finishing work. All such work shall be left undamaged. All damage shall be corrected by cleaning, repairing or replacing, and repainting, as acceptable to the Resident Engineer.

### “Wet Paint” signs shall be provided as required to protect newly painted finishes. All temporary protective wrapping provided for protection of this Contract shall be removed after completion of painting operations.

## CLEAN-UP

### During the progress of the Work, all discarded paint materials, rubbish, cans and rags shall be removed from the site at the end of each work day.

### Upon completion of painting work, all paint-spattered surfaces shall be cleaned. Spattered paint shall be removed by proper methods of washing and scraping, using care not to scratch or otherwise damage finished surfaces.

### At the completion of work of other trades, all damaged or defaced painted surfaces shall be touched-up and restored, as determined by the Resident Engineer.

END OF SECTION