

ITEM 570.9654XX25M - ORGANIC ZINC PAINT SYSTEM (APRIL 15TH TO OCTOBER 15TH)

1.0 General Requirements

1.1 Scope of Work

The CONTRACTOR shall provide all labor, materials, equipment and means to perform the removal of all existing paint from all structural steel indicated on the plans and the application of a three-coat painting system to same areas.

1.2 Contractor Qualifications

The CONTRACTOR shall have a minimum of five years of previous experience in providing surface preparation and coating application services. The CONTRACTOR must have performed at least one similar project within the past two years. Also, due to the complexities associated with the application of zinc-rich primer, epoxy and urethane materials, it is imperative that the CONTRACTOR provide documentation of successful completion of projects that incorporated the use of zinc-rich, epoxy and urethane materials. A list of previous clients/projects shall be submitted. Determination of the CONTRACTOR's satisfactory qualification will be at the sole discretion of the Authority. All client/project lists shall include the names, addresses and telephone numbers of contact persons.

The CONTRACTOR or any SUBCONTRACTOR who will perform the actual blast cleaning and/or painting shall be, at the time bids are received and for the duration of the Contract, certified in accordance with SSPC-QP1 and QP2 full status. Certificates from the SSPC's Painting Contractor Certification Program (PCCP) must be provided when the bids are submitted.

1.3 Reference Documents

1.3.1 The following SSPC specifications form a part of this specification:

- a) SSPC-SP1-82 "Solvent Cleaning"
- b) SSPC-SP3-82 "Power Tool Cleaning"
- c) SSPC-SP5-89 "White Metal Blast Cleaning"
- d) SSPC-SP10 "Near White Metal Blast Cleaning"
- e) SSPC-SP-11 "Power Tool Cleaning to Bare Metal"
- f) SSPC-Vis 1 – "Guide and Reference Photographs for Steel Surfaces Prepared by Dry Abrasive Blast Cleaning"
- g) SSPC Paint Application Specification No. 1 "Shop, Field, and Maintenance Painting of Steel" (SSPC-PA1)
- h) SSPC-PA2 "Measurement of Dry Coating Thickness with Magnetic Gages"
- i) SSPC-AB1-91 "Abrasive Specification No. 1"
- j) SSPC-QP1, "Standard Procedure for Evaluating Qualifications of Painting Contractors: Field Application to Complex Structures"
- k) SSPC-QP2, "Standard Procedure for Evaluating the Qualifications of Painting Contractors to Remove Hazardous Paint"

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1.0 General Requirements (cont'd)

1.3 Reference Documents (cont'd)

1.3.2 The following American Society for Testing and Materials (ASTM) specifications form a part of this specification:

- a) ASTM D4285 "Standard Test Method for Indicating Oil or Water in Compressed Air"
- b) ASTM D4940-89 "Standard Test Method for Conductimetric Analysis of Water Soluble Ionic Contamination of Blasting Abrasives"
- c) ASTM C136 "Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates"

1.4 Superintendence by the CONTRACTOR

1.4.1 The CONTRACTOR shall supervise and direct the work efficiently using the best skill and attention, and shall be solely responsible for the means, methods, techniques, sequences and procedures of construction. The CONTRACTOR will be responsible to see that the finished work complies accurately with the Contract Documents.

1.4.2 The CONTRACTOR shall keep a competent resident superintendent on the job at all times, and shall not be replaced except under extraordinary circumstances. The superintendent shall be the Contractor's representative at the site and shall have the authority to act on behalf of the CONTRACTOR. All communications given to the superintendent shall be binding upon the CONTRACTOR.

1.5 Safety

1.5.1 Safety - Safety requirements for this project shall be followed in strict accordance with all pertinent specifications and special notes contained within the contract documents.

1.5.2 Lead Paint Removal - The CONTRACTOR shall note that the existing coating may contain lead. When handling or removing lead-containing paints, the requirements of the containment and treatment/disposal specifications shall be adhered to as well as any pertinent special notes contained in the contract documents.

1.5.3 Precautions shall be exercised at all times for the protection of persons and property. The safety provisions of the applicable Federal, State and Local laws and building construction codes shall be used.

- a) Safety clothing, including shoes with non-sparking soles, shall be worn by all CONTRACTOR personnel. Personnel shall be equipped with proper respiratory protection. Explosion-proof lighting, fans, pumps, sprayers, flashlights, etc. shall be used in all painting and curing areas.

Smoking, matches, lighters, or other spark/flame producing items shall not be permitted in the painting, curing, or storage areas. Spraying equipment shall be properly grounded.

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1.0 General Requirements (cont'd)

1.5 Safety (cont'd)

1.5.3 (cont'd)

- b) Safe, secure rigging and scaffolding shall be employed and must meet all current OSHA requirements.
- c) Safety requirements for coating storage shall be followed as outlined in Section 2.2.

1.5.4 Nothing in any paragraph of this specification shall be construed as relieving the CONTRACTOR from full responsibility for safe execution of the work at all times.

1.6 Use of Premises

1.6.1 The CONTRACTOR shall confine apparatus, storage of materials, and work operations to the limits prescribed by ordinances or permits, or as may be directed by the OWNER, and shall not unreasonably encumber the premises or any other functions or activities.

1.6.2 The CONTRACTOR shall not load any structure or permit any part thereof to be loaded to such an extent as to endanger its safety. A structural impact analysis evaluating the integrity of the containment and all loads imposed on the structure shall be performed. The CONTRACTOR shall provide documentation ensuring compliance with this section, with the signature of a New York State Professional Engineer prior to beginning of work.

1.6.3 The CONTRACTOR shall comply with and enforce any instructions of the OWNER, or local laws regarding signs, advertising, fire and smoking.

1.6.4 The CONTRACTOR shall keep the premises reasonably clean. Upon completion of the work, he shall remove all temporary construction facilities and unused materials provided for the work. Trash and combustible materials shall not be allowed to accumulate on the premises.

1.7 Submittals

1.7.1 The CONTRACTOR shall provide the following written submittals:

- a) Coating manufacturer's Product Data Sheets, VOC levels, and MSDS sheets.
- b) Documentation of previous similar work experience as outlined in 1.2.1.
- c) Documentation of SSPC QP1 and QP2 qualification.
- d) Work schedule.

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2.0 Materials

2.1 Paint/Coating Materials

- 2.1.1 The paint system shall consist of a zinc-rich primer, epoxy intermediate coat, and a polyurethane finish coat. All coating materials shall have a maximum VOC (as applied) in compliance with applicable regulations.
- 2.1.2 Thinners shall be those recommended by the paint manufacturer.
- 2.1.3 No additives to accelerate the cure of the paint will be allowed.
- 2.1.4 Coatings from different coating manufacturers shall not be mixed together for application under any circumstances.
- 2.1.5 The following coating materials, or approved equal, shall be used. No substitutions will be entertained after the letting.

Sherwin-Williams, Cleveland, Ohio

- First Coat - Zinc Clad IV (B69) (75-125 microns DFT)
- Intermediate Coat - Epoxy Mastic Aluminum II (B62/B60) (100-150 microns DFT)
- *Additional Intermediate Coat - Macropoxy 646 (100-150 Microns DFT)
- Finish Coat - Corothane II (B65/ B60) (50-100 microns DFT)

Tnemec Company, Kansas City, Missouri

- First Coat - 90-97 Tnemec-Zinc Urethane Zinc Rich Primer (63 – 90 microns DFT)
- Intermediate Coat - Series 69 Hi-Build Epoxoline II Epoxy (100-150 microns DFT)
- *Additional Intermediate Coat - Series 69 Hi-Build Epoxoline II Epoxy (100-150 microns DFT)
- Finish Coat - Series 75 Endura-Shield Aliphatic Acrylic Polyurethane (50 – 125 microns DFT)

Carboline Company, St. Louis, Missouri

- First Coat - Carboline 859 Organic Zinc-Rich Primer (75-125 microns DFT)

2.0 Materials (cont'd)

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2.1 Paint/Coating Materials (cont'd)

2.1.4 (cont'd)

Intermediate Coat - Carboline 890 (100-150 microns DFT)

*Additional

Intermediate Coat - Carboline 890 (100-150 microns DFT)

Finish Coat - Carbothane 134 High Solids (50-100 microns DFT)

Devoe Coatings, Rahway, New Jersey

First Coat - Devoe Catha-Coat 303H Zinc-Rich Epoxy Primer (75-100 microns DFT)

Intermediate Coat - Devoe Devran 224 HS (100-175 microns DFT)

*Additional

Intermediate Coat - Devoe Devran 224HS (100-175 microns DFT)

Finish Coat - Devoe Devthane 379 (50-100 microns DFT)

Ameron Coatings, Alpharetta, GA

First Coat - Amercoat 68HS Zinc Primer (75-125 microns DFT)

Intermediate Coat - Amerlock 400 (100-175 microns DFT)

*Additional

Intermediate Coat - Amerlock 400 (100-175 microns DFT)

Finish Coat - Amercoat 450 (50-100 microns DFT)

Keeler & Long, Inc.

First Coat - 9700 Kolorane Zinc Rich Primer (75-125 microns DFT)

Intermediate Coat - 1800 Kolormastic II (125-175 microns DFT)

*Additional

Intermediate Coat - 1800 Kolormastic II (125-175 microns DFT)

Finish Coat - Y-1-Series Acrythane Enamel (50-100 microns DFT)

2.0 Materials (cont'd)

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2.1 Paint/Coating Materials (cont'd)

2.1.4 (cont'd)

Mercury Paint Corp., Brooklyn, NY

First Coat - Mermas 101 Polyamidine – Epoxy Zinc Rich Primer (75-125 microns DFT)

Intermediate Coat - Mermas 100 CW Aluminum Epoxy (100-175 microns DFT)

*Additional

Intermediate Coat - Mermas 100 CW Aluminum Epoxy (100-175 microns DFT)

Finish Coat - Merthane 300 MC Urethane Topcoat (40-65 microns DFT)

M.A.B. Paints, Philadelphia, PA

First Coat - Ply-Tile 520-A-331 Epoxy Zinc Rich Primer (65-90 microns DFT)

Intermediate Coat - Ply-Mastic Epoxy (125-175 microns DFT)

*Additional

Intermediate Coat - Ply-Mastic Epoxy (125-175 microns DFT)

Finish Coat - Ply-Thane 890HS (50-125 microns DFT)

*** NOTE:** The additional intermediate coat shall be applied to the exposed face and bottom flange of the entire length of the fascia beams and the bottom flanges and lower webs (lower 3”) of interior beams over traffic lanes as shown in the additional coat drawing. The additional intermediate coat shall contrast in color to the intermediate and finish. On bridges spanning waterways or railroads but not traffic lanes, the additional intermediate coat will be applied to the fascias, but not to the interior steel.

In cases where the aggregate dry film thickness exceeds the maximum allowable, the Engineer, at his sole discretion, may require that the entire coating system be completely removed and reapplied.

2.0 Materials (cont'd)

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2.2 Paint Delivery, Storage, and Handling

- 2.2.1 Paint materials shall be delivered to the project in sealed, original, labeled containers bearing the manufacturer's name, type of material, brand name, color designation, shelf life, batch number, and instructions for mixing and thinning. All containers of paint shall remain unopened until required for use.
- 2.2.2 Paint, thinners, and solvents shall be stored in accordance with OSHA regulations and the requirements of the paint manufacturer. Paint shall be stored under cover out of direct sunlight, and the temperature maintained between 4°C and 32°C. Only a reasonable amount of thinner necessary to thin the paint shall be transported to the mixing area.
- a) Provide the size and number of fire extinguishers in proper proportion to the quantity of paint stored.
 - b) Do not permit smoking.
 - c) Do not open or mix paints in the storage areas.
 - d) Do not return mixed paints to the storage area.
 - e) Bulk containers of solvents and thinners shall be equipped with spring loaded, self-closing dispensing nozzles. Containers for transporting paint to mixing areas shall be Underwriter's Laboratories approved.
 - f) Bulk containers of solvents and thinners in the storage area shall be equipped with Underwriter's Laboratories approved drum bung vents.
 - g) Lighting shall be equipped with explosion-proof fixtures.
 - h) Do not permit the accumulation of empty paint cans, combustibles, and other debris.
 - i) MSDS sheets for all materials shall be maintained on file.

2.3 Containment and Protection of Surfaces Not to be Coated

- 2.3.1 The coating being removed contains lead. Engineering controls and containment shall be implemented as defined in the containment specification to prevent the escape of dust and paint debris from the work area.
- 2.3.2 The CONTRACTOR shall use extreme diligence to assure that vehicles, equipment, hardware, fixtures, materials, etc. are protected against abrasion damage, paint spillage, overspray, etc., and shall make full restitution for damages caused within thirty (30) days of when it is ascertained that the damages have been caused by the Contractor's operations.
- 2.3.3 Protective coverings, shields, or masking shall be used to protect the following items from impact or damage from surface preparation or the painting work:
- a) Protective coverings shall be installed on nameplates, identification plates, or other items designated by the NYSTA project engineer to prevent damage created by the surface preparation or painting work of the CONTRACTOR.

2.0 Materials (cont'd)

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2.3 Containment and Protection of Surfaces Not to be Coated (cont'd)

2.3.3 (cont'd)

- b) All protective coverings shall be maintained by the CONTRACTOR during the entire period the work is being performed, and all coverings shall be removed by the CONTRACTOR upon completion of the work.

3.0 Execution

3.1 Deteriorated Steel - The CONTRACTOR shall immediately make the Engineer aware of any steel encountered which is cracked or deteriorated due to extensive loss of section and/or holes through the members. The Engineer shall keep an inventory of the areas for future repairs, marking the areas on a set of shop drawings provided by the OWNER.

3.2 Surface Preparation

3.2.1 Slag, Flux, Weld Spatter - Slag, flux deposits, and weld spatter shall be removed. Any resulting burrs, sharp edges, or projections shall be ground to a satisfactory condition suitable for painting.

3.2.2 Sharp Edges - Sharp edges such as those created by flame cutting and shearing shall be ground to satisfactory condition suitable for painting. The rolled edges of angles, channels, lacing bars and WF or I-beams do not normally require further grinding.

3.2.3 Compressed Air Cleanliness - The air supply used for blast cleaning and blowing down surfaces prior to painting shall be free of moisture and oil contamination. The air cleanliness shall be verified with the white blotter test in accordance with ASTM D4285 at least once per shift for each compressed air system. Sufficient freedom from oil and moisture is confirmed if soiling or discoloration are not visible on the paper.

If air contamination is evidenced, the CONTRACTOR shall change filters, clean traps, add moisture separators or filters, or make such adjustments as necessary to achieve clean, dry air.

3.2.4 Prior to blast cleaning, any debris shall be removed by power washing, hand tool cleaning or other acceptable means and shall be contained and disposed of in accordance with applicable State, Federal and Local Laws. Debris shall be defined as anything that is not inherently part of the structure or coating system.

Containment methods shall be Contractor's option and shall effectively capture all debris that falls from the bridge. If power washing is the method used to remove bird droppings, the water shall be captured (prevented from entering the waterway) and disposed of per the requirements of the POTW.

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3.0 Execution (cont'd)

3.2 Surface Preparation (cont'd)

3.2.5 Ambient Conditions - Final surface preparation which exposes bare steel shall not be performed under damp environmental conditions or when the surface temperature is less than 3°C greater than the dew point temperature of the surrounding air.

3.2.6 Abrasives used for blast cleaning shall be recyclable steel grit, and shall be clean and free of oil, soluble salts and other similar substances which could contaminate the blast cleaned surfaces.

a) For each new shipment of abrasive, a random sample shall be tested by the Engineer for the presence of ionic contamination by determining total concentrations of water-soluble ionic contaminants in accordance with ASTM D4940 "Standard Test Method for Conductometric Analysis of Water-Soluble Ionic Contamination of Blasting Abrasive."

b) SSPC-AB1 specifies that conductivity levels shall not exceed 1,000 microsiemen. Conductivity levels above 1,000 microsiemen will not be immediate cause for rejection of the abrasive, but conductivity test results will be used as a factor in determining whether the abrasive is contaminating the steel. If the Engineer determines that the abrasive is contaminating the steel, it will be cause for rejection of the abrasive.

c) This test shall be performed on the abrasive work mix at the beginning of each work day that abrasive blast cleaning is scheduled, unless otherwise ordered by the Engineer. Refer to ASTM D4940 for approximate length of time involved with performing conductivity test.

3.2.7 Remediation of Chloride

a) The Contractor shall propose surface preparation procedures and processes which will remove chloride from the surfaces in addition to removing the paint, rust, and mill scale.

b) Methods of chloride removal may include, but are not limited to, steam cleaning or pressure washing and scrubbing after initial paint removal, abrasive blast cleaning the steel and allowing it to rust overnight followed by reblasting, or blast cleaning with blends of fine and coarse abrasives (e.g., 50/50 blend of G25 and G80 grit).

The proposed procedures for chloride remediation shall be explained in detail in the Surface Preparation/Painting Plan.

When remediation methods include water and detergents or other additives are added to the water, treated surfaces shall be rinsed with potable water before the detergent water dries. If salt reducing additives are used, this requirement may be waived if the Contractor can demonstrate that the additives shall not be detrimental to the coating system. The Contractors proposed method shall be submitted in outline format.

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3.0 Execution (cont'd)

3.2 Surface Preparation (cont'd)

3.2.7 Remediation of Chloride (cont'd)

- c) Upon completion of surface preparation, use the Bresle Cell Kit, or approved equal, to test representative surfaces which were previously rusted (i.e., pitted steel) for the presence of remaining chlorides. A minimum of 3 such tests shall be utilized in each representative area.
- d) If chlorides are detected at levels greater than $5 \mu\text{g}/\text{cm}^2$, continue to clean the affected areas until acceptable results are achieved.
- e) Following successful chloride testing, reclean the surface to achieve the required surface preparation criteria.

3.2.8 The existing (old) coating, all mill scale and rust, shall be completely removed from corroded/pitted surfaces in accordance with SSPC-SP5 "White Metal Blast Cleaning." Non-pitted surfaces shall be cleaned in accordance with SSPC-SP10 "Near White Metal Blast Cleaning" to achieve a surface profile of 50 to 100 microns. The profile measurements will be taken on smooth non-pitted areas. The photographs of SSPC-Vis 1 may be used as an aid in defining the final surface appearance. On surfaces with rust scale build up, the rust scale shall be removed by power tool cleaning in accordance with SSPC-SP3 prior to White Metal Blast cleaning the surfaces.

The existing steel surface may be rough due to pitting. Surface profile measurements for compliance with the 50 to 100 microns profile specification requirement will be made in non-pitted areas. Smoothing of the pitted steel is not required. If areas containing excessive profile are encountered, additional prime coat thickness will be required.

3.3 Mixing and Thinning of Coating Materials

- 3.3.1 Paint to be mixed shall have been stored in accordance with the requirements of this specification and shall not have exceeded its shelf life. When required by the manufacturer, paints stored at less than 10°C shall be warmed to above 10°C prior to mixing.
- 3.3.2 The mixing area shall be properly ventilated to prevent injury to workmen or the accumulation of volatile gases.
- 3.3.3 The coating materials shall be mixed in accordance with the requirements of the coating manufacturer. The materials shall not be used beyond the pot life established by the manufacturer's written instructions. Partial mixing of kits is not permitted.
- 3.3.4 Thinning of paints is permitted only if recommended by the manufacturer. Only those types and brands of thinner recommended by the coating manufacturer shall be used. The amount of thinning shall be in accordance with the manufacturer's requirements, and shall be limited to the amount necessary to facilitate application. THINNING SHALL NOT CAUSE THE MATERIAL TO EXCEED ALLOWABLE VOC LEVELS.

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3.0 Execution (cont'd)

3.4 Coating Application

3.4.1 Surface Preparation - The surface shall exhibit the specified degree of preparation immediately prior to painting. Any rust which has formed shall be removed to comply with this degree of cleaning prior to painting. When approved by the NYSTA project Engineer, localized touch-up of deficient areas may be accomplished in accordance with SSPC-SP11 in lieu of blast cleaning. In the event any cleaned surfaces are left to stand overnight, they shall be re-cleaned to the above specified SSPC Standards.

3.4.2 Surface Cleanliness - All surfaces to be coated shall be thoroughly cleaned prior to each application to remove dirt, dust, or other interference material. Cleaning methods shall be by vacuuming only, unless other means are approved by the Engineer. The cleaning steps shall be followed prior to the application of each coat if surface contamination occurs.

Special worker protection and containment measures will be required to avoid health and safety problems associated with lead contamination.

3.4.3 Grease/Oil - If grease or oil are/or become deposited on the surface, they shall be removed by solvent cleaning in accordance with SSPC-SP1 prior to the application of the next coat.

3.4.4 Ambient/Weather Conditions - All coatings shall be applied under the following conditions unless the coating manufacturer requirements are more stringent, in which case the coatings manufacturer requirements shall prevail:

- a) Surface and Air Temperatures between 10°C and 43°C, or in accordance with the coating manufacturer's written recommendations. Application when the temperature is less than 10°C will be allowed if this does not violate the manufacturer's written recommendations. Temperature controls inside of containment structures will be allowed on the condition that no contamination of the steel surface results.
- b) Relative Humidity - Less than 85% for all coats, unless the coating manufacturer requirements are more stringent.
- c) Dew Point - Surface temperature shall be at least 3°C above the dew point temperature of the surrounding air.
- d) Coatings shall not be applied to surfaces containing frost or applied in rain, fog, or similar conditions.
- e) If the paint is exposed to unacceptable conditions (e.g., rain or dew) prior to adequate curing, it shall be removed and replaced. The decision as to whether the paint has been adversely affected shall be made by the Engineer, and the decision shall be final.

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3.0 Execution (cont'd)

3.4.5 Seasonal Limitation – Paint shall **not** be applied between October 15th and April 15th.

3.4.6 Methods of Application

- a) Application shall be by brush, roller or spray, as recommended by the coating manufacturer. If conventional spray is used, the air shall be clean and dry as verified in accordance with ASTM D4285.

Special care shall be exercised to avoid contamination of surrounding areas or property by overspray. Containment tarps should be used when spray application is performed.

- b) If surrounding properties are subjected to overspray and/or the existing protective measures employed are determined to be inadequate to prevent overspray damage to properties, brush/roller application shall be performed exclusively, except for areas not accessible to brush or roller application. The decision of the Engineer in this regard shall be the final determination.

3.4.7 Ventilation - If the CONTRACTOR elects to apply one or more coats within the containment enclosure, the work area shall be properly ventilated to assure proper worker protection and safety.

3.4.8 Coverage and Continuity:

- a) All surfaces shall be painted with special attention to hard-to-reach areas, such as inaccessible areas including gaps and crevices. Brushes, pole guns, daubers, etc. shall be used as necessary to properly coat these hard-to-reach places.
- b) Each coat of paint shall be applied in such a manner as to assure thorough wetting of the substrate. All coats shall have smooth, streamline surfaces free of dryspray, overspray, and orange peel. Shadow-through, pinholes, bubbles, skips, and misses are not acceptable. Runs or sags can be brushed out while the material remains wet.

3.4.9 Recoat Time and Cleanliness - Subsequent coats shall be applied only after the previous coat has been allowed to dry as required by the manufacturer's instructions, but as soon as possible in order to minimize exposure to intercoat dust and contamination. Any such surface contamination which is present shall be removed prior to the application of subsequent coats. The maximum allowable time between coats shall be 15 days, unless the manufacturer's maximum recommended recoat time is sooner.

3.4.10 Contrasting Colors - Successive coats shall be of sufficiently different color to facilitate proper coverage and to provide a distinction between coats.

3.4.11 Coating Adhesion - All coats shall be well-adherent to each other and to the base metal. If the application of any coat of paint causes lifting of any of the underlying coats, the coating in the affected area shall be removed to adjacent sound, adherent coating, and the material reapplied.

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3.0 Execution (cont'd)

3.4 Coating Application (cont'd)

3.4.12 Dry Film Thickness - The thickness of each coat shall be measured using non-destructive dry film thickness gages. The calibration of the gages and frequency of thickness measurements on steel substrates shall be in accordance with SSPC-PA2. In the case of a dispute regarding the coating thickness applied, a Tooke Gage (destructive scratch gage) can be used, but only to the extent required to resolve the problem. Damage to the coating created by the Tooke Gage shall be clearly marked and identified for touch-up by the CONTRACTOR. The thickness requirements per coat shall be as specified in Section 2.1.4 and 2.1.5.

Note that for brush and roller application, two or more applications may be necessary to achieve the necessary thicknesses of the intermediate and finish coats. No extra payment will be made for additional applications required to achieve the specified thickness.

3.5 Repair of Damaged Paint Surfaces

3.5.1 Preparation of Chipped or Damaged Coating - All damaged coating shall be repaired prior to project completion.

a) Localized damage to the coating that does not expose the substrate shall be repaired by hand or power tool cleaning the damaged area, and feathering the surrounding intact coating for a distance of .25mm to 50mm to provide a smooth tapered transition. When the substrate is exposed, the degree of cleaning shall be equivalent to SSPC-SP11 at a minimum.

The substrate and coating in the feathered areas shall be thoroughly roughened.

b) Extensive damage to the coating shall be prepared to an SSPC-SP5 or SP10 degree of cleaning. Power tool cleaning to SSPC-SP11 may be used in lieu of abrasive blast cleaning upon approval of the project Engineer. If blast cleaning is used, extreme care shall be exercised to avoid damage to the surrounding coating due to over blast. Any such damage shall be repaired at no expense to the OWNER.

3.5.2 Coating Application - Apply the following number of coats to damaged areas. Special care shall be exercised to maintain the specified thickness in overlap areas.

a) Bare Substrate Exposed - When the bare substrate is exposed in the damaged area, all coats of the coating system shall be applied.

b) Bare Substrate Not Exposed - When the damage does not extend through to the substrate, only the intermediate and finish coat shall be reapplied.

3.6 Cure

3.6.1 The coating shall be permitted to cure under suitable ambient conditions for the period of time required by the coating manufacturer prior to exposure to the elements. Premature exposure to rain, fog, dew, mist, etc., which, in the opinion of the Engineer, affects the appearance or integrity of the coating shall be repaired or removed and replaced by the CONTRACTOR at no extra cost to the Authority.

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3.0 Execution (cont'd)

3.7 Identification of Paint System

3.7.1 The paint system used and date of application shall be identified by stenciling the information on the bridge at each end of each structure. The location shall be at the inside of the fascia girder near the abutment, and on Thruway overpasses shall be visible from the right shoulder in the direction of travel. Include: (1) surface preparation, (2) first coat, (3) second coat, (4) third coat, (5) date of application. Use lettering which is a minimum of 25mm high and stenciled in black or other contrasting color.

3.7.2 CONTRACTOR shall furnish the paint, stencils, and other materials required for this identification. Hand lettering is not acceptable.

3.8 Clean-Up/Disposal/Hazardous Waste

3.8.1 Housekeeping, clean-up, and disposal of the debris shall be in strict accordance with the requirements described in the pertinent specifications and special notes contained in the contract documents.

3.8.2 The project Engineer or his designated representative will inspect all phases of work to insure that it is in accordance with these Specifications. The inspector will inspect surface preparation, pre-painting cleanliness, paint application procedures, dry film thickness and adhesion. As a minimum, the CONTRACTOR shall facilitate this inspection by providing access to safe, secure rigging for this inspection.

3.8.3 The presence or activity of any NYSTA inspections shall not relieve the CONTRACTOR of his responsibility to provide adequate inspections of his own to assure compliance with this specification.

4.0 Method of Measurement

4.1 Payment will be made at the lump sum price bid.

5.0 Basis of Payment

5.1 The lump sum price bid shall include the cost of all labor, materials and equipment necessary to complete the work. All work shall be done in a manner satisfactory to the Engineer.

5.2 For the purpose of progress payments, the lump sum price bid for the item shall be apportioned as noted below:

5.2.1 Payments will be made for each stage satisfactorily completed in accordance with this Specification as follows:

a) Stage 1, Cleaning and Priming. Fifty (50) percent of the lump sum price bid will be paid for satisfactorily cleaning and priming the entire structure.

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5.0 Basis of Payment (cont'd)

5.2.1 (cont'd)

- b) Stage 2, Second Coat. Twenty Five (25) percent of the lump sum price bid will be paid for satisfactorily applying the epoxy to the entire structure.
- c) Stage 3, Third Coat. Twenty Five (25) percent of the lump sum price bid will be paid for satisfactorily applying the urethane finish coat to the entire structure.

5.3 For progress payment purposes only, within each stage the lump sum price shall be distributed on a per span basis adjusted for the relative estimated square meters of each span.