

## SECTION 09992

# CLEANING AND OVERCOATING STRUCTURAL STEEL

### PART 1 GENERAL

#### 1.1 SECTION INCLUDES

- A. Clean and overcoat existing structural steel surfaces including all bearing units for existing paint systems that have red lead primer.

#### 1.2 REFERENCES

- A. ASTM E 11: Wire Cloth and Sieves For Testing Purposes
- B. Federal Standard No. 595: Color
- C. The Society for Protective Coatings (SSPC) Guidelines

#### 1.3 DEFINITIONS

- A. Overcoating: spot prime, an intermediate coat, and a top coat of paint over the entire surface on each girder.

#### 1.4 SUBMITTALS

- A. The Contractor or the subcontractor must submit a written compliance program indicating that they have the equipment, training, containment and monitoring system to comply with OSHA's standard on lead exposure in construction, as published in Federal Register, Section 29 CFR 1926.62, May 4, 1993.

#### 1.5 QUALIFICATIONS AND EVALUATION

- A. Responsible Parties:
  - 1. Contractors and subcontractors performing surface preparation or coatings applications in the field:
    - a. Certification required prior to contract award by The Society for Protective Coatings to the requirements of SSPC QP 2 Category A.
    - b. Remains certified for the duration for the project.

2. Fabricators, painting contractors, and painting subcontractors:
  - a. Do not perform work if certification has expired.
  - b. Requests for time extension for any delay to the completion of the project due to an inactive certification will not be considered and liquidated damages applies.
- B. Disqualification:
  1. Engineer may withdraw qualification for questionable performance of the painter, blasting operator, or the equipment.
  2. Disqualification results from inadequate surface preparation, improper profile, runs, sags, overspray, thin film thickness, excessive film build-up, uneven coating, non-uniform color, improper curing, or any other defect in the coating system.

## **1.6 REQUIREMENTS FOR COATING APPLICATIONS**

- A. Have the painter, the blasting operator, or both consult with the manufacturer's technical representative for answers to technical questions relating to the application of the specified coating materials.
- B. Obtain surface preparation approval from the Engineer before applying paint.
- C. Use equipment capable of taking dry-film thickness readings on all portions including nuts and bolts.

## **1.7 PROJECT CONDITIONS/WEATHER LIMITATIONS**

- A. If weather conditions require paint thinning, follow the manufacturer's recommendations.
- B. Apply paint only when the following weather conditions exist:
  1. The temperature of the air and the steel: above 40 degrees F.
  2. The relative humidity:
    - a. Less than 85 percent, or such that the combination of temperature and humidity conditions inhibits surface condensation.
    - b. To test humidity, apply a thin film of water to a small area. If the film evaporates within 15 minutes, the surface may be painted.
    - c. Steel temperature a minimum of 5 degrees F above dew point.

## **PART 2 PRODUCTS**

### **2.1 MATERIALS**

- A. Solvent: As recommended by the manufacturer.

### **2.2 COATING SYSTEM**

- A. Select a coating system as approved by the New England Protective Coating Specification Criteria (NEPCOAT). Refer to <http://www.udot.utah.gov/index.php/m=c/tid=719> for a link to this list.
- B. Paint Color: Federal Standard No. 595
  - 1. Field Coat: Use color No. 26293
  - 2. Top Coat: Use color No. 26306
- C. Use manufacturer's information regarding the specified coating materials, including project safety data, thinning recommendations, temperature requirements, profile recommendations, mixing and application procedures, and required equipment.
- D. Properly mix coating system. Meet the manufacturer's recommendations and project specifications.
- E. Use necessary equipment for the proper application of the specified coating, observing safety practices found in SSPC Paint Application Guide No. 3, "A Guide to Safety in Paint Application."
- F. Use wet and dry-film thickness gauges for testing the coating thickness during and after application.

### **2.3 TESTING**

- A. Provide samples from each batch or lot of paint prior to use.
- B. UDOT Central Lab tests for acceptance.

## **2.4 MIXING PAINT**

- A. Mix the paint to a lump-free consistency according to the producer's directions.
  - 1. Keep paint in the original containers and mix until all the pigment is suspended.
  - 2. Continue mixing until all solids that may have settled to the bottom of the container are thoroughly dispersed.
- B. Strain the paint through a screen having openings no larger than those specified for a No. 50 sieve. ASTM E 11.

## **PART 3 EXECUTION**

### **3.1 PREPARATION**

- A. Clean surfaces of all oil, grease, and dirt with clean petroleum solvents and low-pressure water-jetting wash.
- B. Remove all corrosion, and all paint that shows peeling, brittleness, checking, scaling, or general disintegration, including bearing units.
  - 1. Use vacuum shrouded power tool cleaning.
  - 2. Remove paint from the area and beyond the edges of the area so that remaining paint system shows no rusting or blistering underneath, and adheres tightly to the surface. Remaining paint system should have sufficient adhesion that cannot be lifted as a layer by inserting a blade or putty knife under it.
  - 3. Feather the edges of the remaining paint system around the cleaned areas so the repainted surface appears smooth.
- C. Protection:
  - 1. Fully contain all material resulting from surface preparation and paint overspray.
  - 2. Enclosure system must withstand extreme high winds.
  - 3. Protect all portions of the structure that will not be painted.
- D. Recover a minimum of 95 percent of debris from cleaning operation.
  - 1. Sample debris from cleaning operation. Submit samples to UDOT Materials and an independent accredited Materials Testing Lab for composition and disposal evaluation.
  - 2. Place reclaimed waste paint in EPA-USDOT approved containment. Store at the project site.

3. The Engineer tests the waste paint who then contacts the UDOT chemist at 965-4298. Submit paint composition and disposal evaluation results from the independent materials testing lab. Disposition will be given to the contractor within 30 days. Dispose of waste paint as directed by the Engineer; submit disposal certificates for all waste paint.

### **3.2 APPLICATION**

- A. Do not apply paint until the Engineer approves the prepared surface.
  1. Use rubber rollers or other approved protective devices on scaffold fastenings.
  2. Do not use metal rollers, clamps, and other types of fastenings that mar or damage freshly coated surfaces.
- B. Apply paint with spray nozzles at pressures recommended by the producer of the coating system.
- C. Apply a minimum dry-film thickness of 2 mils spot prime, 2 mils intermediate coat, and a minimum of 1.5 mils for the top coat. Use a magnetic film thickness gauge for verification.
- D. Apply two or more coats if the required film thickness couldn't be obtained by one coat without producing runs, bubbles, or sags.
- E. Paint as described in the standard specifications to produce a uniform, even coating which bonds to the underlying surface. SSPC-PA 1.

END OF SECTION