

SP00594 (2015 Specifications: ~~01-14-05-01-16~~)

(This Section requires SP00290. Requires SP00084 when a coating system warranty is required in subsection .75. Requires SP00296 when lead is anticipated.)

SECTION 00594 - PREPARING AND COATING METAL STRUCTURES

(Follow all instructions. If there are no instructions above a subsection, paragraph, sentence, or bullet, then include them in the project. The specifications may be modified to include project specific specifications, but all additions, deletions, or modifications must be sent to the ODOT Technical Resource and Senior Specifications Engineer for review and approval.)

(Use only one of the following lead-in paragraphs as instructed below.)

[Use the following lead-in paragraph when NONE of the following subsections are included in the project special provisions.]

Comply with Section 00594 of the Standard Specifications.

[Use the following lead-in paragraph when ANY of the following subsections are included in the project special provisions.]

Comply with Section 00594 of the Standard Specifications modified as follows:

(Use the following subsection .05(a) when lead is anticipated on the project.)

00594.05(a) Abrasive Blast Cleaning - Add the following bullet to the end of the bullet list:

- Type E1 Airlock for containment entryways.

(Use the following subsection .05(g) when the Contractor is allowed to conform to defined loading conditions instead of submitting structural design calculations. Obtain language from the Bridge Designer.)

00594.05(g) Structural Design Requirements - Replace this subsection with the following subsection:

00594.05(g) Structural Design Requirements:

(1) Design Requirements - Include dead load, live load, and wind load when designing loads for containment structures and work platforms. Dead load is the self-weight of the containment and work platforms, live load is all personnel, equipment, and materials, including collected debris, required for normal operations, and wind load is a basic wind speed of 90 mph applied in the most critical direction.

Design a factor of safety of at least 6 for wire ropes and connecting hardware and at least 4 for all other components for containment structure and work platform

components. Factor of safety is the ultimate failure load of the component divided by the maximum working load combination applied to the component.

Verify structural adequacy of the bridge with added loading from containment structures and work platforms using either AASHTO Standard Specifications for Highway Bridges, Group II, III, V, and VI load combinations, or AASHTO LRFD Bridge Design Specifications, Strength III loading combination.

Submit for review, according to 00150.35, at least 21 calendar days before the precoating conference the containment structure plans, specifications, shop drawings, welding procedures, and design calculations assuring that the containment system, work platforms, and the structural members of the bridge can safely resist the combined effects of dead loads, live loads, and wind loads. The plans, specifications, and calculations shall be prepared and stamped by a civil or structural engineer licensed to practice in the State of Oregon, who has previously designed at least one bridge painting containment structure.

(2) Loading Conditions - Design calculations for the structural members of the bridge are not required if all of the following conditions are satisfied:

(Insert bridge loading conditions from the bridge designer here.)

(Use the following lead-in paragraph and subsection .05(I) when navigational clearances are required. Fill in the blank. Obtain information from the Bridge Designer.)

Add the following subsection:

00594.05(I) Navigational Clearance - No containment material shall extend _____ feet below the lowest section of the bridge span over navigable waters.

(Use the following subsection .06 when lead is anticipated on the project.)

00594.06 Waste Handling and Disposal - Add the following paragraph to the end of this subsection:

When lead is contained in the waste, dispose of waste material according to 00290.20, Section 00296, and the applicable requirements of SSPC-Guide 7.

(Use the following subsection .10 to list coating materials. Obtain information from the Designer.)

00594.10 Materials - Add the following to the end of this subsection:

Provide the following coating materials:

(Use the following subsection .40(b) when coating existing steel structures. Obtain information from the Designer.)

00594.40(b) Existing Steel Structures - Add the following paragraphs and bullets to the end of this subsection:

Prepare and coat the following surfaces:

(List below what is to be coated.)

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Do not coat the following:

(List below what is not to be coated.)

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(Use the following subsection .40(d) when existing non-steel metallic substrates are to be coated. Obtain information from the Designer.)

00594.40(d) Non-Steel Metallic Substrates - Add the following paragraph and bullets to the end of this subsection:

Existing non-steel metallic substrates to be prepared and coated include:

(List below what existing non-steel metallic substrates are to be coated.)

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(Use the following subsection .42(d-2) when aluminum surfaces are to be prepared.)

00594.42(d-2) Aluminum - Replace this subsection, except for the subsection number and title, with the following:

Prepare aluminum surfaces by using one of the following methods:

- Solvent clean surfaces to be coated according to SSPC-SP 1, then follow by a light brush blast according to SSPC-SP 7 with a maximum nozzle pressure of 75 psi.
- Hand sand the surface, creating a minimum 1 mil profile.
- Clean the surface according to the manufacturer's recommendations.

(Use the following subsection .75 when a coating system warranty and supplemental warranty performance bond are required. Fill in the first blank with the structure number. Fill in the second blank with a discount to the value of the completed coating system work. The value of the coating system work shall include the value of all pay items listed in subsection 00594.90, barges, and any additional painting work, based on the project cost estimate. Contact the

Structure Coatings Engineer for the specific discount for the project. Be sure to include SP00084 when a coating system warranty is required.

00594.75 Coating System Warranty and Supplemental Warranty Performance Bond -

Add the following to this subsection:

Provide a coating system warranty for Structure No. _____ and a supplemental warranty performance bond in the sum of \$ _____ .