

ALABAMA DEPARTMENT OF TRANSPORTATION

DATE: July 9, 2014

Special Provision No. 12-0519(2)

EFFECTIVE DATE: November 1, 2014

SUBJECT: Steel Bridge Coating

Alabama Standard Specifications, 2012 Edition, SECTION 521 shall be revised as follows:

SECTION 521 STEEL BRIDGE COATING

521.04 Blast Cleaning, Mechanical Cleaning and Surface Roughness.

(a) POTENTIAL HAZARDOUS WASTE FROM CLEANING EXISTING STEEL SURFACES.

Subarticle 521.04(a) shall be replaced with the following:

(a) POTENTIAL HAZARDOUS WASTE FROM CLEANING EXISTING STEEL SURFACES.

Historically the results of testing performed on existing coatings shows that there is a strong likelihood that the blast waste will be hazardous due to the presence of the heavy metals lead and/or chromium. Existing coatings may be tested, prior to bidding, for potential hazardous materials. The results of this testing, should it be performed, will be provided to potential bidders by plan notes or other supplementary documentation that will be included in the bidding proposal. All cleaning waste (blast waste, mechanical cleaning waste, etc.) shall be handled as hazardous waste until appropriate testing (Toxicity Characteristic Leaching Procedure TCLP, EPA Test Method 1311 test given in the EPA manual SW-846) has been conducted and a determination has been made to the contrary.

The Contractor shall be fully responsible for all expenses that may be due to the handling and disposal of hazardous waste that is generated from cleaning existing steel bridge surfaces.

(c) MECHANICAL CLEANING SURFACE PREPARATION FOR COATING SYSTEM 3.

Subarticle 521.04(c) shall be replaced with the following:

(c) MECHANICAL CLEANING SURFACE PREPARATION FOR COATING SYSTEM 3.

Unless noted otherwise on the plans, the surfaces that are to be recoated with Coating System 3 shall be prepared by SSPC-SP 2 "Hand Tool Cleaning" or SSPC-SP 3 "Power Tool Cleaning", SSPC-SP 12 "Surface Preparation by High- and Ultrahigh-Pressure Water Jetting", or other means to remove loose paint and loose rust prior to recoating.

521.06 Collection and Disposal of Coating Material Waste from Existing Bridge.

The last paragraph of Article 521.06 shall be replaced with the following:

Copies of all required regulatory documentation, including ADEM Form 8700-12, shall be delivered to the Engineer at the time that they are submitted to the regulatory agencies. The work will not be accepted until all required notifications and permit terminations have been completed and copies of the Receipt of Termination for all permits, including the ADEM Form 8700-12, provided to the Engineer.

521.07 Surface Preparation Plan Submittal for the Removal of Existing Coatings.

Article 521.07 shall be replaced with the following:

521.07 Surface Preparation Plan Submittal for the Removal of Existing Coatings.

Prior to beginning the work of removing coatings from existing bridges, the Contractor shall submit a Surface Preparation Plan for review and distribution by the Construction Engineer. Copies of the plan

shall be submitted as Working Drawings in accordance with the requirements given in Section 105. The Contractor will not be required to have the plan stamped and signed by a Licensed Professional Engineer unless the preparation of details shown on the plan (for example temporary structural supports) is addressed in Alabama law regulating the practice of engineering. The plan shall be created to comply with all rules and regulations of EPA, ADEM, OSHA and any other agency that has regulatory authority and shall include:

- the cleaning methods and products proposed for removal of paint with product manufacturer documentation of the effectiveness of the cleaning methods and products in producing non hazardous blast waste;
- a work phase diagram describing how the debris shall be contained while blasting and coating operations are conducted;
- a detailed drawing and/or description of the enclosure listing the type of covering, details of the covering support materials, details of the connections to the bridge structure;
- methods and equipment proposed for collecting the blast debris;
- description of the containers and the location proposed for storing the blast debris;
- drawing at an appropriate scale to show the location of the storage of the blast waste in relation to the location of the work;
- copies of the submittal of ADEM's Form 8700-12. (If TCLP testing of blast waste proves that it is non-hazardous the Contractor may request release from ADEM's Form 8700-12 with approval of the Engineer.);
- description of the details, location and procedures for disposal of the blast debris.

521.10 Compliance with Coating Manufacturer's Requirements.

The second paragraph of Article 521.10 shall be replaced with the following:

If requested by the Engineer, the Contractor shall have a representative of the coating manufacturer present at the **initial** application of the coats. The representative shall remain for a period of time **necessary to insure that the coatings are being applied satisfactorily and curing properly.**

521.13 Quality Control for Application of Coatings in the Fabricator's Shop.

Article 521.13 shall be replaced with the following:

521.13 Quality Control for Application of Coatings in the Fabricator's Shop.

If requested by the Engineer, the fabricator shall have a representative of the coating manufacture present at the initial application of the coating. The representative shall remain for a period of time necessary to insure that the coatings are being applied satisfactorily and curing properly.

The fabricator shall keep a daily record of each **coating** operation. The record shall be kept more frequently if the materials or **coating** operations change during the **coating** process. The **coating** records shall be kept on a form furnished by the fabricator that is acceptable to the representative **of ALDOT.**

Each **coating** record shall contain the ambient temperature, steel temperature, relative humidity, dewpoint, average anchor profile, coating system number, batch number, time and date blasted, time and date **coated** and all other information that is pertinent to the application of the coating.

After each required coat of paint has cured, the average coating thickness of **each member** shall be recorded. The minimum and maximum thickness as specified on the coating manufacturer's written data shall be required. The averages shall be taken from three evenly divided sections over the length and on each side of the member under examination. The averaging shall be based on SSPC-PA 2 guidelines.

Each coating record form shall be signed by the fabricator's quality control supervisor. A copy of each coating record form shall be given to the **ALDOT** representative **within five working days** that coating work **was** performed. A copy of the manufacturers' certifications of all batch numbers of the applied coatings shall also be submitted to the ALDOT representative with the coating record forms.

Average anchor profile of blasted steel shall be checked using press-o-film type tape. The actual press-o-film type tape used for the measurement of the anchor profile shall be included with the copy

of the coating record. Where materials other than beams and girders have been accumulated during a single shift or production run, the anchor profile of randomly selected members shall be checked.

Coatings shall not be applied until the surface to be coated has been inspected and approved by the fabricator's quality control inspector or coatings shop supervisor after final cleaning. This prior approval also applies to additional coats that may be required.

521.15 Ambient Conditions for Surface Preparation and Coating Application.

Article 521.15 shall be replaced with the following:

521.15 Ambient Conditions for Surface Preparation and Coating Application.

(a) AMBIENT CONDITIONS FOR SURFACE PREPARATION.

Final surface preparation shall not be performed on steel surfaces which may come into contact with rain, fog, snow, or dew prior to application of the coating. **Final surface** preparation operations, **specifically meaning the 24 hour period within actual coating of steel surfaces**, shall not take place when the steel surface is within 5 °F {3 °C} of the dew point or when the steel surface is below 32 °F {0 °C}. The equipment to check the dew point, humidity, and steel temperature shall be furnished by the Contractor.

(b) Surface preconditioning such as SSPC-SP 7 "Brush-Off Blast Cleaning" is allowable when dew point, steel surface temperatures or other conditions are outside of allowable ranges as long as final surface preparation requirements specifically regarding SSPC-SP6 and SSPC-SP10 are completed within the 24 hour period of coating steel surfaces.

(c) AMBIENT CONDITIONS FOR COATING APPLICATION.

Coating operations shall take place only when the surrounding air temperature or temperature of the steel is above 40 °F {5 °C} and not expected to drop to or below 32 °F {0 °C} prior to drying of the coating. Coatings shall not be applied to damp or frozen steel surfaces. Coatings shall not be applied when the steel surface is within 5 °F {3 °C} of the dew point or at a relative humidity above 85% unless the conditions of application recommended by the coating manufacturer are different and are allowed by the Engineer. Coatings shall not be applied during rain, snow, or fog conditions or when it is likely that moisture in the form of rain, fog, snow, or dew will contact coated surfaces which have not cured to water resistance.

521.16 Additional Requirements for Applying Primer Coat in the Shop.

(a) EXPOSED SURFACES.

The first paragraph of Subarticle 521.16(a) shall be replaced with the following:

Unless designated otherwise on the plans or in these specifications, all steel surfaces that will be exposed, with the exception of weathering steel, shall be coated in the shop with a primer coat.

(f) PROTECTION OF THE PRIMER COAT IN THE SHOP.

The first paragraph of Subarticle 521.16(f) shall be replaced with the following:

The freshly coated steel shall not be handled or moved, except when unavoidable, until the primer coat is dry. All handling shall be performed using methods that will prevent the primer coat from being damaged. Storing shall be done in such a manner that the coating will not be removed or covered with dust, dirt, or other foreign material. **In the case that debris does settle and harden on the coated surfaces during periods of extended shop storage, power washing shall be required before materials are staged for delivery. Any surfaces which require cleaning shall be restored to the original acceptable conditions prior to delivery to the project site.**

521.17 Requirements for Applying Additional Coats over a Shop Primer Coat.

(b) COATING SURFACES AFTER ERECTION.

The first and second paragraphs of Subarticle 521.17(b) shall be replaced with the following:

Immediately after the erection of materials (all connections complete), all bolted connections such as girder connection plates, diaphragm connection plates, field splice plates, galvanized bolts, nuts, washers, and other portions of the structure (except portions in contact with the concrete) which have received a shop applied primer coat and all completed bolt assembly installations shall be cleaned.

All surfaces that have been scraped, chipped, or damaged during shipping and erection and all surfaces of the prime coat that have deteriorated shall be coated as per the coating manufacturers recommendations to restore the prime coat to an acceptable condition prior to top coating operations.