



Florida Department of Transportation

RICK SCOTT
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

ANANTH PRASAD, P.E.
SECRETARY

December 27, 2012

Monica Gourdine
Program Operations Engineer
Federal Highway Administration
545 John Knox Road, Suite 200
Tallahassee, Florida 32303

Re: Office of Design, Specifications
Section **560**
Proposed Specification: **5600204 Coating Structural Steel.**

Dear Ms. Gourdine:

We are submitting, for your approval, two copies of the above referenced Supplemental Specification.

These changes were proposed by Paul Vinik of the State Materials Office (SMO) to allow the use of an electronic conductivity meter for soluble salts testing and to clarify application intent for caulking and stripe coating.

Please review and transmit your comments, if any, within two weeks. Comments should be sent via email to SP965TT or trey.tillander@dot.state.fl.us.

If you have any questions relating to this specification change, please call me at 414-4140.

Sincerely,

Signature on file

V. Y. "Trey" Tillander, III, P.E.
State Specifications Engineer

TT/dt

Attachment

cc: Florida Transportation Builders' Assoc.
State Construction Engineer

COATING NEW STRUCTURAL STEEL.**(REV ~~10-1-1329~~~~11-12-13~~14-12)**

SUBARTICLE 560-2.4 (Page 743) is deleted and the following substituted:

560-2.4 Soluble Salts Test Kit: Use a soluble salts test kit in accordance with SSPC-Guide 15 utilizing a Class A retrieval method. -Ensure the test sleeve or cell creates a sealed, encapsulated environment during ion extraction and is suitable for testing all structural steel surfaces. *As an alternative, the following any use only electronic conductivity meters approved for use by the State Materials Office (SMO) and listed on the SMO website Engineer may be used: ARP soluble salt meter, Model #RPCT-070001, the Salt Smart manufactured by Innovative Productivity Inc., or a Brestle Patch in conjunction with a Horiba B-173 Twin Cond Conductivity Meter.*

SUBARTICLE 560-2.5 (Page 743) is deleted and the following substituted:

560-2.5 Abrasives: Use properly sized abrasives to achieve the required cleanliness and anchor profile. Use abrasives meeting the requirements of SSPC-AB 1, Mineral and Slag Abrasives, SSPC-AB 2, Cleanliness of Recycled Ferrous Metallic Abrasives, or SSPC-AB 3, Newly Manufactured or Re-Manufactured Steel Abrasive and do not introduce any contamination that interferes with the coating application and performance.

Provide certification to the Engineer that the abrasives used meet the requirements of this Section and do not contain any chlorides and other salts.

For non-metallic abrasives, verify compliance with the conductivity and cleanliness requirements of SSPC-AB1. For recycled abrasives, verify compliance with the conductivity and cleanliness requirements of SSPC-AB 2 after each recycling or more frequently if required by the Engineer. Select a sample from each recycling machine in use and conduct the water-soluble contaminant and oil content tests outlined in SSPC-AB 2 at least one time each week or more frequently if directed by the Engineer. Conduct the non-abrasive residue and lead content tests as directed by the Engineer. If test results do not meet requirements, notify the Engineer immediately, remove and replace the abrasive, clean the recycling equipment, and conduct tests each day to confirm the equipment is functioning properly. Return to the weekly testing interval as directed by the Engineer.

SUBARTICLE 560-6.3 (Page 744) is deleted and the following substituted:

560-6.3 Quality Control Inspectors in the Shop and Field: Provide documentation to the Engineer that all personnel performing quality control inspections are certified at a minimum as a National Association of Corrosion Engineers (NACE) Coating Inspector Level I or a SSPC Level 1 Bridge Coating Inspector and that they report directly to a ~~the Contractor's~~ Quality Control Supervisor who is certified either as a NACE Coating Inspector Level 3 or a SSPC Level 2 Bridge Coating Inspector.

SUBARTICLE 560-7.4 (Page 745) is deleted and the following substituted:

560-7.4 Washing: Wash all steel surfaces in accordance with the requirements of SSPC-SP 12 *LPWC WJ4*.

SUBARTICLE 560-7.5 (Page 745) is deleted and the following substituted:

560-7.5 Soluble Salts Detection and Removal: *When using SSPC Guide 15, Class A retrieval methods, Determine the chloride, sulfate and nitrate concentrations on all steel surfaces using soluble salts test kits meeting the requirements of 560-2.4. Measure the concentration levels using the method described in SSPC-TU 4. Perform the tests after washing and after each applied coat of the coating system. Ensure the non-visible surface contaminant concentrations on blast-cleaned surfaces do not exceed the levels in SSPC-SP 12 Table A1 NV2 for chloride, soluble ferrous iron and sulfate and 10 µg/cm² for nitrate. When using electronic conductivity meters, use meters meeting the requirements of 560-2.4 and measure the surface conductivity as prescribed by the manufacturer. The instrument shall be properly calibrated and maintained per according to the manufacturer's recommendations. Ensure the surface conductivity does not exceed 70- micro-Siemens per centimeter squared. For either contaminant assessment method (salt test kits or conductivity meter) Test three random locations in the first 1000 square feet and one random location for each subsequent 1000 square feet. Ensure the non-visible surface contaminant concentrations on blast-cleaned surfaces do not exceed the levels in SSPC-SP 12 Table A1 NV2 for chloride, soluble ferrous iron and sulfate and 10 µg/cm² for nitrate. When any concentration or conductivity measurement exceeds these levels given above, these levels* rewash the entire surface area and retest. If additional washing does not reduce the concentration to the acceptable level, a surface treatment or water additive may be used. Use a surface treatment or water additive that is approved by the coating system supplier and the Engineer.

SUBARTICLE 560-7.7 (Page 745) is deleted and the following substituted:

560-7.7 Hand and Power Tool Cleaning: Prepare steel by power and hand tool cleaning as defined in SSPC-SP 11, *SSPC-SP 15*, SSPC-SP 3, and SSPC-SP 2 for touch up and repair when approved by the Engineer. Use SSPC-VIS 3 as an aid in establishing cleanliness.

SUBARTICLE 560-9.3 (Page 746) is deleted and the following substituted:

560-9.3 Sealing Using Caulk: *Apply caulk after the intermediate coat has fully cured to a condition suitable for recoating in accordance with the manufacturer's product data sheet, and before application of the finish coat.*^[dt1] Completely seal the perimeter of all faying surfaces, cracks and crevices, joints open less than 1/2 inch, and

skip-welded joints using caulk. Apply the caulk to the joint following the caulk manufacturer's recommendations. Ensure the caulk bead has a smooth and uniform finish and is cured according to the caulk manufacturer's ~~recommendation~~ *curing schedule* prior to the application of the *finish coating system*. *It is unnecessary to caulk cracks and crevices less than ~~3 thousandths of an~~ 0.003 -inches in width, located on the interior surface area of box girders.*

SUBARTICLE 560-9.7 (Page 747) is deleted and the following substituted:

560-9.7 Stripe Coating: Apply stripe coats *for both intermediate and finish coats* to achieve complete coverage and proper thickness on welds, corners, crevices, sharp edges, bolts, nuts, rivets, and rough or pitted surfaces. *A stripe coat of clear coating is not required. Do not apply ~~S~~subsequent coats ~~shall not be applied~~ until the previous stripe coat has ~~fully~~ cured per the manufacturer's product data sheet for recoating.* [d42] Stripe coating is not required for the inside surface area of all steel box girders.

SUBARTICLE 560-9.8 (Page 747) is deleted and the following substituted:

560-9.8 Thickness of Coats: Apply coatings to the thickness as identified in the manufacturer's product data sheet. After application of each coat, thoroughly inspect the surfaces and measure the dry film thickness (DFT) in accordance with SSPC-PA 2. *As an exception to SSPC-PA2, the DFT of the prime coat shall not be less than the minimum specified by the manufacturer's product data sheet.* When the DFT is deficient or excessive, correct in accordance with the coating manufacturer's recommendations and retest the area.

**COATING NEW STRUCTURAL STEEL.
(REV 12-14-12)**

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Provide certification to the Engineer that the abrasives used meet the requirements of this Section and do not contain any chlorides and other salts.

For non-metallic abrasives, verify compliance with the conductivity and cleanliness requirements of SSPC-AB1. For recycled abrasives, verify compliance with the conductivity and cleanliness requirements of SSPC-AB 2 after each recycling or more frequently if required by the Engineer. Select a sample from each recycling machine in use and conduct the water-soluble contaminant and oil content tests outlined in SSPC-AB 2 at least one time each week or more frequently if directed by the Engineer. Conduct the non-abrasive residue and lead content tests as directed by the Engineer. If test results do not meet requirements, notify the Engineer immediately, remove and replace the abrasive, clean the recycling equipment, and conduct tests each day to confirm the equipment is functioning properly. Return to the weekly testing interval as directed by the Engineer.

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