



Florida Department of Transportation

JEB BUSH
GOVERNOR

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Tallahassee, FL 32399-0450

DENVER J. STUTLER, JR.
SECRETARY

June 29, 2006

Mr. Greg Williams
Program Operations Engineer
Federal Highway Administration
545 John Knox Road, Suite 200
Tallahassee, Florida 32303

Re: Office of Design, Specifications
Section 563
Proposed Specification: 5630000.D01 – Anti-Graffiti Coating System

Dear Mr. Williams:

We are submitting, for your approval, two copies of a proposed Supplemental Specification for Anti-Graffiti Coating System.

This change was proposed by Dale Cook of the State Maintenance Office to rewrite this Section due to the limited number of manufacturer's that can apply for QPL status as the specification is currently written.

Please review and transmit your comments, if any, within two weeks. Comments should be sent via Email to SP965DB or duane.brautigam@dot.state.fl.us.

If you have any questions relating to this specification change, please call Duane F. Brautigam, State Specifications Engineer at 414-4110.

Sincerely,

Duane F. Brautigam, P.E.
State Specifications Engineer

DFB/sh

Attachment

cc: General Counsel
Florida Transportation Builders' Assoc.
State Construction Engineer

ANTI-GRAFFITI COATING SYSTEM.

(REV 3-3-066-27-06)

SECTION 563 (Pages 661-664) is deleted and the following substituted:

**SECTION 563
ANTI-GRAFFITI COATING SYSTEM**

563-1 Description.

Apply anti-graffiti coating system of the type specified and to the areas shown in the plans. *Perform the painting in accordance with this Section, using materials meeting the requirements of 975-9.*

~~563-2 Materials:~~

~~**563-2.1 General:** Use compatible anti-graffiti coating system components from the same *as recommended by the* manufacturer which are currently listed on the Department's Qualified Products List (QPL).~~

~~_____ Ensure all products meet Federal, State, and Local environmental requirements.~~

~~_____ Furnish two copies of the manufacturer's written installation instructions, a list of all materials used in the anti-graffiti coating system, and all material safety data sheets.~~

~~_____ Manufacturer's seeking evaluation of a product by the Department shall meet the requirements of Section 6.~~

~~**563-2.2 Non Sacrificial Base Coat:** Use a clear or pigmented epoxy, urethane, acrylic etc. base coat which meets the following requirements:~~

- ~~Solids by Volume.....50% minimum~~
- ~~VOC..... 1.7 lb/gal [214 g/L] maximum~~
- ~~Pot Life 2 1/2 hours at 70°F [21°C] minimum~~
- ~~Taber Abrasion 1,000 cycles with CS17 wheel Weight Loss in accordance with ASTM D 4060 102 mg maximum~~

~~**563-2.3 Non Sacrificial Finish Coat:** Provide a high or semi gloss non-yellowing aliphatic polyurethane, aliphatic urethane or aliphatic acrylic polyurethane coating of the color shown in the plans which, meets following requirements:~~

- ~~Solids by Volume.....40% minimum~~
- ~~VOC..... 2.2 lb/gal [264 g/L] maximum~~
- ~~Pot Life..... 2 1/2 hours at 70°F [21°C] minimum~~
- ~~Taber Abrasion 1,000 cycles with CS17 wheel Weight Loss in accordance with ASTM D 4060 60.5 mg maximum~~

~~**563-2.4 Sacrificial Finish Coat:** Provide a non-yellowing water based resin, cross linked co-polymer, waterborne polymer, etc., sacrificial anti-graffiti coating which, meets following requirements:~~

- ~~Solids by Volume.....8% minimum~~
- ~~VOC..... 13 oz/gal [100 g/l] maximum~~
- ~~Color when cured..... Clear~~

~~**563-2.5 Certification:** Furnish two certified copies of a test report from the manufacturer certifying the anti graffiti products to be incorporated into the completed project meets the requirements of this Specification. The certified test reports shall be attested to by a person having legal authority to bind the manufacturing company.~~

563-3.2 Application.

~~**563-32.1 General:** Apply either a one or two coat *an* anti-graffiti *coating or coating* system as specified in the Contract Documents in accordance with manufacturer's recommendations and as specified herein, when the ambient temperature is between 40° and 90°F [~~4° and 32°C~~], and the surface temperature is between 50° and 85°F [~~10° and 29°C~~] and rising.~~

Ensure all concrete has cured a minimum of 30 days before applying anti graffiti coating.

Do not apply coating when precipitation is expected within 12 hours of the completion of application or the relative humidity is above 88 percent.

563-32.2 Protection of Adjacent Surfaces: Consider wind direction, velocity and geographic location as having a major impact on all cleaning and anti-graffiti coating operations. If conditions are such that material is dispersed to areas where vehicles or other property may be damaged, suspend operations until conditions improve enough to permit work without damage.

Protect all surfaces not intended to be coated, which are adjacent to, or in close proximity to the surfaces to be coated, during the application of anti-graffiti coating. Clean surfaces ~~other than those intended~~ *that are* to be painted ~~coated, as per manufacturer's recommendation~~ *or until all traces of anti-graffiti coating have been removed and the surface has an acceptable appearance.* Use all necessary precautions to prevent materials from cleaning and anti-graffiti coating operations being dispersed outside the work site.

563-32.3 Surface Preparation: Prepare all surfaces to be coated in accordance with *560-15 and the manufacturer's recommendation for* the following requirements:

Surface Cleaning Concrete Unit Masonry for
Coating.....ASTM D 4261
or
Surface Cleaning Concrete for CoatingASTM D 4258
Testing pH of cleaned concrete surfaceASTM D 4262
Moisture in concreteASTM D 4263

When the anti-graffiti coating or coating system is to be applied over an existing coating, conduct a test patch in accordance with 560-15.

~~**563-32.4 Base Coat:** Ensure the surface is clean and dry before applying the base coat. Mix base coat according to manufacturer's recommendations before application. Apply the base coat, *if part of the system*, as recommended by the manufacturer.~~

Unless otherwise specified by the manufacturer, Ensure ensure the cured base coat has a minimum dry film thickness of 4.0-8.0 mils [~~100-200 µm~~].

563-32.5 Finish Coat Non Sacrificial *and Sacrificial*: When applicable, ensure the base coat surface is clean and cured to a dry hard state *according to the manufacturer's recommendation* before applying the finish coat. ~~Otherwise ensure the prepared surface is clean and dry before applying the finish coat. Mix finish coat and apply in accordance with the manufacturer's recommendations.~~

Ensure the cured finish coat of the two coat system has a minimum dry film thickness of 2.5-5.0 mils {62-125 μm }.

Apply as many coats as necessary to provide a finish coat which is a uniform continuous film over the entire surface, free of pinholes, runs, sags, or any other deficiencies.

~~—————~~ **563-3.6 Finish Coat Sacrificial:** When applicable, ensure the base coat surface is clean and cured to a dry hard state before applying the finish coat. Otherwise ensure the prepared surface is clean and dry before applying the finish coat. Mix finish coat and apply in accordance with the manufacturer's recommendations.

~~—————~~ When using a One Coat System apply as many coats as necessary to provide a finish coat which is a uniform continuous film over the entire surface, free of pinholes, runs or sags.

~~—————~~ **563-3.7 Curing:** Adjust the curing times shown below for variations in temperatures and humidity as recommended by the manufacturer. These times are based on an ambient temperature of 75°F [24°C] at 50 percent relative humidity.

Non-Sacrificial – Anti-Graffiti Coating System	
Base Coat	
Recoat/Topcoat Time	16 hours maximum
Finish Coat	
Curing Time to Touch	8 hours maximum
Curing Time to Dry Hard	7 days maximum

Sacrificial – Anti-Graffiti Coating System	
Re-Coat Time	2 hours maximum
Curing Time to Touch	2 hours maximum
Full Cure Time	4 days maximum

~~—————~~ **563-3.8 Clean Up:** Clean drippings, runs and smudges from the finished work surface as recommended by the anti-graffiti coating manufacturer.

563-3.92.6 Correction of Deficiencies: Remove all coating identified by the Engineer as damaged or not meeting these Specifications, in accordance with the manufacturer's recommendations.

Prepare the surface and reapply the coating in accordance with the manufacturer's recommendations and as specified herein, at no additional cost to the Department.

563-3.102.7 Removal of Graffiti Before Acceptance: Remove all graffiti from areas receiving anti-graffiti coating, at no additional cost to the Department. Ensure all Federal, State, and Local environmental regulations are met when removing graffiti.

563-3.102.7.1 Finish Coat Non Sacrificial: Meet the manufacturer's recommendations for removal.

563-3.102.7.2 Finish Coat Sacrificial: Meet the manufacturer's recommendations for removal. Prepare the surface and reapply the sacrificial coating in accordance with the manufacturer's recommendations and as specified herein.

563-4.3 Method of Measurement.

The quantity to be paid for will be the *projected surface* area *to be coated with* of anti-graffiti coating, in square feet ~~square meters~~, completed and accepted.

563-5.4 Basis of Payment.

Price and payment will be full compensation for all work specified in this Section, including furnishing and applying all materials to complete the anti-graffiti coating.

Payment shall be made under:

- Item No. -563- 3- Anti-Graffiti Coating (Sacrificial) per square foot.
- ~~Item No. 2563- 3- Anti-Graffiti Coating (Sacrificial) per square meter.~~
- Item No. -563- 4- Anti-Graffiti Coating (Non Sacrificial) per square foot.
- ~~Item No. 2563- 4- Anti-Graffiti Coating (Non Sacrificial) per square meter.~~

**ANTI-GRAFFITI COATING SYSTEM.
(REV 6-27-06)**

SECTION 563 (Pages 661-664) is deleted and the following substituted:

**SECTION 563
ANTI-GRAFFITI COATING SYSTEM**

563-1 Description.

Apply anti-graffiti coating system to the areas shown in the plans. Perform the painting in accordance with this Section, using materials meeting the requirements of 975-9.

Use compatible anti-graffiti coating system components as recommended by the manufacturer which are currently listed on the Department’s Qualified Products List (QPL).

563-2 Application.

563-2.1 General: Apply an anti-graffiti coating or coating system as specified in the Contract Documents in accordance with manufacturer’s recommendations and as specified herein, when the ambient temperature is between 40° and 90°F, and the surface temperature is between 50° and 85°F and rising.

Ensure all concrete has cured a minimum of 30 days before applying anti graffiti coating.

Do not apply coating when precipitation is expected within 12 hours of the completion of application or the relative humidity is above 88 percent.

563-2.2 Protection of Adjacent Surfaces: Consider wind direction, velocity and geographic location as having a major impact on all cleaning and anti-graffiti coating operations. If conditions are such that material is dispersed to areas where vehicles or other property may be damaged, suspend operations until conditions improve enough to permit work without damage.

Protect all surfaces not intended to be coated, which are adjacent to, or in close proximity to the surfaces to be coated, during the application of anti-graffiti coating. Clean surfaces that are to be coated, as per manufacturer’s recommendation. Use all necessary precautions to prevent materials from cleaning and anti-graffiti coating operations being dispersed outside the work site.

563-2.3 Surface Preparation: Prepare all surfaces to be coated in accordance with 560-15 and the manufacturer’s recommendation for the following requirements:

- Surface Cleaning Concrete Unit Masonry for Coating.....ASTM D 4261
- or
- Surface Cleaning Concrete for CoatingASTM D 4258
- Testing pH of cleaned concrete surfaceASTM D 4262
- Moisture in concreteASTM D 4263

When the anti-graffiti coating or coating system is to be applied over an existing coating, conduct a test patch in accordance with 560-15.

563-2.4 Base Coat: Apply the base coat, if part of the system, as recommended by the manufacturer.

Unless otherwise specified by the manufacturer, ensure the cured base coat has a minimum dry film thickness of 4.0-8.0 mils.

563-2.5 Finish Coat Non Sacrificial and Sacrificial: When applicable, ensure the base coat surface is clean and cured to a dry hard state according to the manufacturer's recommendation before applying the finish coat. Mix finish coat and apply in accordance with the manufacturer's recommendations.

Ensure the cured finish coat of the two coat system has a minimum dry film thickness of 2.5-5.0 mils.

Apply as many coats as necessary to provide a finish coat which is a uniform continuous film over the entire surface, free of pinholes, runs, sags, or any other deficiencies.

563-2.6 Correction of Deficiencies: Remove all coating identified by the Engineer as damaged or not meeting these Specifications, in accordance with the manufacturer's recommendations.

Prepare the surface and reapply the coating in accordance with the manufacturer's recommendations and as specified herein, at no additional cost to the Department.

563-2.7 Removal of Graffiti Before Acceptance: Remove all graffiti from areas receiving anti-graffiti coating, at no additional cost to the Department. Ensure all Federal, State, and Local environmental regulations are met when removing graffiti.

563-2.7.1 Finish Coat Non Sacrificial: Meet the manufacturer's recommendations for removal.

563-2.7.2 Finish Coat Sacrificial: Meet the manufacturer's recommendations for removal. Prepare the surface and reapply the sacrificial coating in accordance with the manufacturer's recommendations and as specified herein.

563-3 Method of Measurement.

The quantity to be paid for will be the surface area to be coated with anti-graffiti coating, in square feet, completed and accepted.

563-4 Basis of Payment.

Price and payment will be full compensation for all work specified in this Section, including furnishing and applying all materials to complete the anti-graffiti coating.

Payment shall be made under:

- | | |
|------------------|--|
| Item No. 563- 3- | Anti-Graffiti Coating (Sacrificial) per square foot. |
| Item No. 563- 4- | Anti-Graffiti Coating (Non Sacrificial) per square foot. |