



Florida Department of Transportation

RICK SCOTT
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

ANANTH PRASAD, P.E.
SECRETARY

December 20, 2011

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

Re: Office of Design, Specifications
Section **975**
Proposed Specification: **9750700 Structural Coating Systems.**

Dear Ms. Gouridine:

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

This change was proposed by Paul Vinik of the State Materials Office to modify testing requirements to allow the use of water cleanable anti-graffiti coatings, and to eliminate laboratory testing requirements for non-sacrificial coatings that do not provide added value. The language was also revised for formatting and clarity.

Please review and transmit your comments, if any, within two weeks. Comments should be sent via Email to SP965RP or rudy.powell@dot.state.fl.us.

If you have any questions relating to this specification change, please call Rudy Powell, State Specifications Engineer at 414-4280.

Sincerely,

Signature on file

Rudy Powell, Jr., P.E.
State Specifications Engineer

RP/dt
Attachment

cc: Calvin Johnson, Chief Civil Litigation
Florida Transportation Builders' Assoc.
State Construction Engineer

975 STRUCTURAL COATING SYSTEMS.(REV ~~7-20-108-279-161011-122230-11~~) (~~FA 11-9-10~~) (~~7-11~~)

ARTICLE 975-7 (of the Supplemental Specifications) is deleted and the following substituted:

975-7 Anti-Graffiti Coating Materials.

975-7.1 General Requirements: Anti-graffiti coatings intended for use under this specification shall be of a composition capable of preventing the adhesion of ~~graffiti~~ and facilitating the removal of ~~graffiti~~ *acrylic, polyurethane, and alkyd spray on coatings paint*. All anti-graffiti coatings shall possess the physical and handling characteristics that are compatible with the requirements of Section 563.

Anti-graffiti coatings shall contain less than 5.0 lb/ ~~per~~ gallon volatile organic compounds (VOC) as defined by 40 CFR Part 59, Subpart D, and evaluated as per ASTM D 3960.

The manufacturer ~~will~~ *shall* supply the following additional information:

a. ~~Cleaning-Graffiti removal~~ instructions, *including any solvents or other and* materials, as ~~applicable~~ *necessary*. ~~Surfaces-Graffiti removal~~ must be ~~cleanable accomplished~~ with nonproprietary cleaners as defined in ASTM D 6578.

b. Sacrificial Coating Removal instructions, as applicable.

~~c. Recommended base coat, as applicable.~~

~~d. Identification of coating system and type, as applicable~~ *components*.

~~e. Clear coats must contain a UV degradable color for inspection purposes. UV degradable color must dissipate in a reasonable time period to allow inspection but not detract from visual impact of the structure.~~

975-7.2 Performance Requirements: For laboratory testing, use flat test panels prepared in accordance with AASHTO R-31. Outdoor exposure testing will be performed by the Department. Submit four 4 inch by 8 inch fiber cement test panels, ~~with a mass of 7 to 9 pounds per square foot of surface area~~ to the State Materials Office. Panels will be exposed at the Department's outdoor test site in accordance with ASTM G 7.

Laboratory Testing - Non-Sacrificial		
Property	Test Method	Requirement
Cyclic Weather Testing (<i>solvent cleanable and water cleanable</i>)	AASHTO R-31	No blistering, cracking, checking, chalking, or delamination; color change less than 3 Delta- E- CIE- LAB units; Retention of 60° Gloss ratio >= 0.80
Taber Abrasion	ASTM D 4060, CS17, 1,000 g of sand	60 g maximum weight loss
Impact Resistance	ASTM D 2794	Minimum of 30 inch pounds, 1/2" impact, intrusion

Laboratory Testing - Non-Sacrificial		
Property	Test Method	Requirement
Graffiti Resistance (solvent cleanable)	ASTM D 6578.; Use identified marking materials; initial and recleanability Complete removal of solvent-based acrylic, polyurethane, and alkyd spray paint; and after exposure; initial and recleanability	Cleanability Level 8, 9, or 10.
MEK Double Rub	ASTM D 4752; 50 rubs	No coating wear through (4 minimum rating)
Fluid Resistance (solvent cleanable)	ASTM D 1308 -- s Spot Test; Paint Thinner, Gasoline	No blistering, discoloration, softening or adhesion loss.
Outdoor Exposure Testing – Non-Sacrificial		
Property	Test Method	Requirement
Graffiti Resistance (water cleanable)	ASTM G 7: 6 months exposure at FDOT test site 2500 psi using pressure washer	Complete removal of solvent based acrylic, polyurethane, and alkyd based spray paint. No delamination or visual defects.

Laboratory Testing - Sacrificial		
Property	Test Method	Requirement
Cyclic Weather Testing	AASHTO R-31, no salt fog, 95°F, 0% - 90% Relative Humidity, 500 hours, alternating RH every 100 hours	No melting or disbondment
Outdoor Exposure Testing - Sacrificial		
Property	Test Method	Requirement
Sacrificial Coating removability	Per Manufacturer's specifications ASTM G 7: 6 months exposure at FDOT test site	Complete removal of material -solvent based acrylic, polyurethane, and alkyd based spray paint from substrate

Outdoor Exposure Testing – Water Cleanable		
Property	Test Method	Requirement
Cleanability	ASTM G 7: 6 months exposure at FDOT test site	Complete removal of solvent based acrylic, polyurethane, and alkyd based spray paint. No delamination or visual defects.

975 STRUCTURAL COATING SYSTEMS.
(REV 11-30-11)

ARTICLE 975-7 (of the Supplemental Specifications) is deleted and the following substituted:

975-7 Anti-Graffiti Coating Materials.

975-7.1 General Requirements: Anti-graffiti coatings intended for use under this specification shall be of a composition capable of preventing the adhesion of and facilitating the removal of acrylic, polyurethane, and alkyd spray paint. All anti-graffiti coatings shall possess the physical and handling characteristics that are compatible with the requirements of Section 563.

Anti-graffiti coatings shall contain less than 5.0 lb per gallon volatile organic compounds (VOC) as defined by 40 CFR Part 59, Subpart D, and evaluated as per ASTM D 3960.

The manufacturer shall supply the following additional information:

a. Graffiti removal instructions, including any solvents or other materials, as necessary. Graffiti removal must be accomplished with nonproprietary cleaners as defined in ASTM D 6578.

b. Sacrificial Coating Removal instructions, as applicable.

c. Identification of coating components.

975-7.2 Performance Requirements: For laboratory testing, use flat test panels prepared in accordance with AASHTO R-31. Outdoor exposure testing will be performed by the Department. Submit four 4 inch by 8 inch fiber cement test panels to the State Materials Office. Panels will be exposed at the Department's outdoor test site in accordance with ASTM G 7.

Laboratory Testing - Non-Sacrificial		
Property	Test Method	Requirement
Cyclic Weather Testing (solvent cleanable and water cleanable)	AASHTO R-31	No blistering, cracking, checking, chalking, or delamination; color change less than 3 Delta E CIE LAB units; Retention of 60° Gloss ratio ≥ 0.80
Graffiti Resistance (solvent cleanable)	ASTM D 6578. Complete removal of solvent-based acrylic, polyurethane, and alkyd spray paint; after exposure; and recleanability	Cleanability Level 8, 9, or 10.
Fluid Resistance (solvent cleanable)	ASTM D 1308 – Spot Test; Paint Thinner, Gasoline	No blistering, discoloration, softening or adhesion loss.
Outdoor Exposure Testing – Non-Sacrificial		
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Sacrificial Coating removability	ASTM G 7: 6 months exposure at FDOT test site	Complete removal of solvent based acrylic, polyurethane, and alkyd based spray paint from substrate