Florida Department of Transportation

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GOVERNOR

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STEPHANIE KOPELOUSOS
SECRETARY

July 27, 2010

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

Re: Office of Design, Specifications
Section 975
Proposed Specification: **9750600 Structural Coating Systems – Class 5 Applied Finish Coatings.**

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 to remove the outdoor testing requirements as a condition for QPL approval and clarify the laboratory testing requirements for Class 5 Applied Finish Coatings. Instead of outdoor testing requirements, the manufacturer will submit test panels for Department testing and research.

Please review and transmit your comments, if any, within two weeks. Comments should be sent via Email to ST986RP 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,

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

RP/dt
Attachment
cc: Gregory Jones, Chief Civil Litigation
Florida Transportation Builders' Assoc.
State Construction Enginee

STRUCTURAL COATING SYSTEMS – CLASS 5 APPLIED FINISH COATINGS. (REV 6~~5~~-9~~7~~-10)

ARTICLE 975-6 (of the Supplemental Specifications) is deleted and the following substituted:

975-6 Class 5 Applied Finish Coatings.

975-6.1 General: All coatings shall possess physical properties and handling characteristics compatible with the application requirements of Section 400.Unless otherwise specified, the color of the finish coat shall meet Federal Color Standard No. 595B, Table VIII, Shade No. 36622.

975-6.2 Coating Requirements:

~~**975-6.2.1 Laboratory Requirements:**~~ Use 4 -inch -by -8 -inch (except as required below) fiber cement test panels with a mass of 7 to 9 -pounds per square foot of surface area *to perform the laboratory tests*. ~~*Submit four 4 inch by 8 inch (except as required below) fiber cement test panels and a along with 1 quart wet samples of each component of each coating incorporated in the total system being evaluated. Coating thickness shall be compliant with Section 400 and application shall be compliant with the manufacturer's published technical data sheet and ASTM D 4587. In addition, completely seal the corners of all test panels with a high build epoxy or equivalent to prevent moisture ingress at corners and cut edges.*~~ Coatings ~~s~~ *performance* shall meet the following requirements:

Laboratory Testing		
Property	Test Method	Requirement
Resistance to Wind Driven Rain	ASTM -D -6904	No visible water leaks, and if the rear face of the block is damp, the average gain in weight of the three 8 -by -16 by -2 -inch blocks must be less than 0.2 -lb.
Freeze thaw resistance	AASHTO -R-31	No disbondment
Water Vapor Transmission	ASTM -D -1653; Method -B, Condition -C	WVT≥10 -perms
Abrasion Resistance	ASTM -D -968, 3,000 -liters of sand	No loss of coating thickness ASTM -D -6132
Salt Spray (fog) resistance	ASTM -B -117, 2,000 -hours	No disbondment
~~Cyclic Weathering~~*Fluorescent UV-Condensation Exposure*	~~AASHTO R-31, 5,000 hours~~*ASTM -D -4587, 2000 hours, 4 -hours UV, 4 -hours condensation*~~*Cycle Number 2*~~	No blistering *(ASTM -D -714)*, cracking *(visual), or delamination (visual).*~~checking~~ *chalking (ASTM -D -4214 Method -D) rating no less than 8.*~~, chalking, or delamination~~
Fungal Resistance	ASTM -D -3273	Rating of 10, ASTM -D -3274

Submit four fiber cement test panels and a 1 quart wet sample of each component of each coating incorporated in the total system being evaluated. Prepare test panels by applying the finished coating at a rate of 50 ~~+~~ plus or minus 10 ~~ft2~~ square feet per ~~/~~ gallon. ~~-~~In addition, completely seal the corners of all test panels with a high build epoxy or equivalent to prevent moisture ingress at corners and cut edges.

~~**975-6.2.2 Outdoor Exposure Requirements:** Outdoor exposure testing will be performed by the Department. Submit four 4 inch by 8 inch (except as required below) fiber cement test panels with a mass of 7 to 9 pounds per square foot of surface area to the State Materials Office. Also submit 1-quart wet samples of each component of each coating incorporated in the system being evaluated. Panels will be exposed at the Department's outdoor test site in accordance with ASTM G7. All coatings shall meet the requirements below. The coatings must continue to provide acceptable protection and performance for a period of 5 years.~~

~~Outdoor Exposure Testing Requirements~~		
~~Property~~	~~Test Method~~	~~Requirement~~
~~Blistering~~	~~ASTM D 714~~	~~Rating of 10~~
~~Fungal Resistance~~	~~ASTM D 3273~~	~~Rating of 10~~

STRUCTURAL COATING SYSTEMS – CLASS 5 APPLIED FINISH COATINGS. (REV 6-9-10)

ARTICLE 975-6 (of the Supplemental Specifications) is deleted and the following substituted:

975-6 Class 5 Applied Finish Coatings.

975-6.1 General: All coatings shall possess physical properties and handling characteristics compatible with the application requirements of Section 400.Unless otherwise specified, the color of the finish coat shall meet Federal Color Standard No. 595B, Table VIII, Shade No. 36622.

975-6.2 Coating Requirements: Use 4 inch by 8 inch (except as required below) fiber cement test panels with a mass of 7 to 9 pounds per square foot of surface area to perform the laboratory tests. Coating performance shall meet the following requirements:

Laboratory Testing		
Property	Test Method	Requirement
Resistance to Wind Driven Rain	ASTM D 6904	No visible water leaks, and if the rear face of the block is damp, the average gain in weight of the three 8 by 16 by 2 inch blocks must be less than 0.2 lb.
Freeze thaw resistance	AASHTO R-31	No disbondment
Water Vapor Transmission	ASTM D 1653; Method B, Condition C	WVT≥10 perms
Abrasion Resistance	ASTM D 968, 3,000 liters of sand	No loss of coating thickness ASTM D 6132
Salt Spray (fog) resistance	ASTM B 117, 2,000 hours	No disbondment
Fluorescent UV-Condensation Exposure	ASTM D 4587, 2000 hours, 4 hours UV, 4 hours condensation	No blistering (ASTM D 714), cracking (visual), or delamination (visual). chalking (ASTM D 4214Method D) rating no less than 8.
Fungal Resistance	ASTM D 3273	Rating of 10, ASTM D 3274

Submit four fiber cement test panels and a 1 quart wet sample of each component of each coating incorporated in the total system being evaluated. Prepare test panels by applying the finished coating at a rate of 50 plus or minus 10 square feet per gallon. In addition, completely seal the corners of all test panels with a high build epoxy or equivalent to prevent moisture ingress at corners and cut edges.