Florida Department of Transportation

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GOVERNOR

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Tallahassee, FL 32399-0450

KEVIN J. THIBAULT, P.E.
SECRETARY

August 13, 2019

Khoa Nguyen
Director, Office of Technical Services
Federal Highway Administration
3500 Financial Plaza, Suite 400
Tallahassee, Florida 32312

Re: State Specifications Office
Section: **413**
Proposed Specification: **4130302 Sealing Cracks and Concrete Structure Surfaces.**

Dear Mr. Nguyen:

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

The changes are proposed by Matthew Duncan of the State Materials Office to modify the language. ASTM D2471 has been withdrawn.

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

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

Sincerely,

Signature on file

Stefanie D. Maxwell, P.E.
Manager, Program Management Office

SM/dt
Attachment
cc: Florida Transportation Builders' Assoc.
State Construction Engineer

**SEALING CRACKS AND CONCRETE STRUCTURE SURFACES.**
**(REV ~~5-7-19~~6-12-19)**

SUBARTICLE 413-3.2.1 is deleted and the following substituted:

**413-3.2.1 Properties:** Use a methacrylate material that meets the following physical and performance requirements:

| Table 2: Physical Properties of Methacrylate Resin | |
|---|---|
| Viscosity (Brookfield RVT) | 14-20 cps at 50 rpm |
| Density (ASTM D1481) | 8.5 - 9.0 lb/gl at 77° F |
| Flash Point (ASTM D93) | > 200°F (Pensky Martens CC) |
| Odor | Low |
| Bulk Cure Speed | 3 Hours @ 73°F (max.) |
| Surface Cure | 8 Hours @ 73°F (max.) |
| Gel Time(1) ~~(ASTM 2471)~~ | 60 minutes (max.) @ 73.4 ± 1.8°F |
| Tack Free Time | 4-6 Hours (max.) (at 72°F and 50% Relative Humidity |
| Compressive Strength (AASHTO T106) | 6,500 psi (min) |
| Tensile Strength (ASTM C307) | 1,300 psi (min) |
| Shear Bond Adhesion (ASTM C882) | 600 psi (min) |
| Elongation*(2) (ASTM D638) | 10% to 30% |
| Wax Content | 0 |
| 1. Use a test method capable of measuring the gel time to the nearest 0.5 minute. | |
| *2. Do not use methacrylate with elongation less than 20% for concrete decks supported by steel girders. | |

The monomer shall have a shelf life of no less than 12 months and shall be no more than 8 months old at the time of application. Provide each container shipped to the job site with the following information on a manufacturer's label: manufacturer's name, product name, lot or batch number, date of production, and drum serial number. Identify the catalysts by their generic classification and provide the date of manufacture.

~~SUBARTICLE 413-3.4.6 is deleted and the following substituted:~~

~~**413-3.4.6 Sand Distribution:** Apply sand over the monomer treated area within a timely period following the application of the polymer based on the manufacturer's recommendations for the existing conditions. Use equipment that will produce a uniform distribution of the sand over the treated area. If wheel mounted, use a sand spreader that has pneumatic tires compatible with the treatment material such that no tire footprints are left on the deck surface.~~

~~Conduct an AASHTO T 242 friction test using the ribbed tire (AASHTO M 261) option and a trailer-type measuring vehicle. Use an initial sand application rate of 0.6 (plus or minus 0.05) pounds of sand per square yard of treated area, and adjust the rate as necessary to produce a friction number (FN) of no less than FN40R greater than or equal to 35 at~~

7 days at a test speed of FN40. Coordinate with the Engineer to conduct a preliminary on-site friction test to determine the actual sand application rate prior to the beginning of production application. Provide workers experienced in friction testing to conduct the test in accordance with AASHTO T242 using the ribbed tire option and a trailer-type measuring vehicle. If friction numbers below those specified are obtained, completely remove all loose sand from the surface and re-apply the polymer at a rate of 150 square feet per gallon and spread additional sand as necessary to achieve the specified friction numbers. Remove the surface material by grinding, shot blasting, or other approved method if satisfactory friction values are not achieved. The Contractor shall secure the services of an independent enterprise with prior experience in roadway friction testing with the equipment described in AASHTO T 242 to perform the tests.Friction tests will be conducted by the State Materials Office.

BARTICLE 413-5 is deleted and the following substituted:

**413-5 Basis of Payment.**

Prices and payments will be full compensation for all work specified in this Section, including cleaning, furnishing and applying the material required to satisfactorily clean and seal cracks and designated surface areas, all testing, and miscellaneous related costs including storage, and handling, etcand all other incidentals necessary to complete the work.

No additional compensation will be made for material, reapplication or removal due to Contractor error, or to correct deficient friction values.

Payment will be made under:

Item No. 413-149- Penetrant Sealer - per gallon
Item No. 413-151- Methacrylate Monomer - per gallon
Item No. 413-154- Cleaning and Sealing Concrete Surfaces - square foot

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