

ORIGINATION FORM

Proposed Revisions to the Specifications

(Please provide all information - incomplete forms will be returned)

Date:

Office:

Originator:

Specification Section:

Telephone:

Article/Subarticle:

email:

Associated Section(s) Revisions:

Will the proposed revision require changes to:

Publication	Yes	No	Office Staff Contacted
Standard Plans Index			
Traffic Engineering Manual			
FDOT Design Manual			
Construction Project Administration Manual			
Basis of Estimate/Pay Items			
Structures Design Guidelines			
Approved Product List			
Materials Manual			

Will this revision necessitate any of the following:

Design Bulletin

Construction Bulletin

Estimates Bulletin

Materials Bulletin

Are all references to external publications current?

Yes

No

If not, what references need to be updated? (Please include changes in the redline document.)

Why does the existing language need to be changed?

Summary of the changes:

Are these changes applicable to all Department jobs?

Yes

No

If not, what are the restrictions?

Contact the State Specifications Office for assistance in completing this form.

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M E M O R A N D U M

DATE: December 9, 2021
TO: Specification Review Distribution List
FROM: Daniel Strickland, P.E., State Specifications Engineer
SUBJECT: Proposed Specification: **9740000 Surface Applications.** *

In accordance with Specification Development Procedures, we are sending you a copy of a proposed specification change.

The changes are proposed by Karen Byram to modify the detectable warnings requirement for NTPEP to allow independent laboratory reports, add testing criteria for snowplow, remove Non-Vehicular references from Patterned Pavement, and change friction testing to DFT in the Standard Specification.

Please share this proposal with others within your responsibility. Review comments are due within four weeks and should be sent to Mail Station 75 or online at <http://fdotewp1.dot.state.fl.us/programmanagement/development/industryreview.aspx> . Comments received after **January 6, 2022**, may not be considered. Your input is encouraged.

*Associated with proposed Standard Specification revision 5230000.

DS/dh

Attachment

SURFACE APPLICATIONS.
(REV 11-29-21)

SECTION 974 is deleted and the following substituted:

SECTION 974
SURFACE APPLICATIONS

974-1 Description.

This section specifies the material requirements for detectable warnings and patterned pavement.

974-2 Detectable Warnings.

Provide detectable warnings in accordance with the Americans with Disabilities Act Standards for Transportation Facilities, Section 705. Provide detectable warnings consisting of materials intended for exterior use subject to routine pedestrian traffic and occasional vehicular traffic. Provide detectable warnings with size and pattern comprised of truncated domes aligned in parallel rows. Detectable warnings with a diagonal pattern are not permitted. Detectable warnings consisting of truncated domes fabricated in the field are not permitted.

974-2.1 Approved Product List Submittal Requirements: Manufacturers seeking evaluation of products for inclusion on the APL shall submit an application in accordance with Section 6 and include the documentation identified in the Table 974-1. Documentation and reports must demonstrate that the product meets the requirements of this Section, Section 527, and the Standard Plans, Index 522-002.

Table 974-1	
Documentation	Requirements
Product Photo	Displays the significant features of the product.
Technical Data Sheet	Uniquely identifies the product and includes product specifications, storage instructions, and recommended installation materials and equipment as applicable.
Product Label	For each component of the product system.
Safety Data Sheet (SDS)	SDS meeting OSHA requirements for product and manufacturer recommended installation materials as applicable. <u>Non-Hazardous, per RCRA Subtitle C Table 1 of 40 CFR 261.24 "Toxicity Characteristic" and not exude fumes which are hazardous, toxic, or detrimental to persons or property.</u>
National Testing Product Evaluation Program (NTPEP) Test Report <u>or Independent Laboratory Test Report</u>	Testing must be conducted using the project Work Plan for NTPEP Laboratory Testing of Detectable Warning Systems, using the cold exposure category.
Independent Laboratory Test Report	Color/Contrast testing as identified in Table 974-2.

Table 974-1	
Documentation	Requirements
Installation Instructions	Surface preparation and installation procedures for different substrates. The minimum curing time prior to installing the product for surface-applied materials.
Product Sample	Submit upon request from the Department. If the product is a system, a sample of each component must be submitted.

974-2.2 Performance Requirements: Provide detectable warnings that meet the performance requirements of Table 974-2.

Table 974-2			
Property	Documentation	Test Value	
Visual and Microscopic Evaluation¹	Provide NTPEP Test Report	No lifting, debonding, cracking, flaking, and missing or partial domes.	
Domes and Spacing Dimensional Testing ¹	Provide NTPEP Test Report <u>or Independent Laboratory Test Report</u>	Meets the requirements <u>with of</u> the Americans with Disabilities Act Standards for Transportation Facilities, Section 705.	
Slip Resistance ¹	Provide NTPEP Test Report <u>or Independent Laboratory Test Report</u>	Dry Coefficient of Friction – 0.8 min. Wet Coefficient of Friction – 0.65 min. (include recessed areas between truncated domes).	
Visual and Microscopic Evaluation¹	Provide NTPEP Test Report or Independent Laboratory Test Report	No lifting, debonding, cracking, flaking, and missing or partial domes.	
Color Measurement¹	Provide NTPEP Test Report	Uniform color, for each color.	
Resistance to Impact from Falling Tup¹	Provide NTPEP Test Report	No cracking, flaking, missing or partial domes, 20 ft-lb energy.	
Adhesive, Coating, and Single Dome Bond Strength on Uncured Concrete Panel [AASHTO T 388], uncured concrete panel³	Independent Laboratory Test Report Provide NTPEP Test Report	<u>For Surfaced applied detectable warning systems installed on uncured concrete:</u> 150 psi min. with an elapsed panel cure time of less than 72 hours.	
Color/Contrast ^{1,2} <u>[ASTM D5894, or ASTM D4329]</u>	Independent Laboratory Test Report	<u>Meets the requirements of this Section</u>	
		Color	CAP Y
		Safety Yellow	25 – 45
		Brick Red	5 – 15
		Black	0 – 5

¹ Before and after exposure testing.
² 6,000 hours, UV Exposure only.

974-3 Patterned Pavement.

Provide patterned pavement products that produce an adherent, weather resistant, ~~skid~~ friction resistant, and wear resistant surface that meets the requirements of this Section, and Section 523.

Material color and friction elements shall be integral and homogenous.

Patterned pavement installations requiring removal of pavement are not permitted.

974-3.1 Approved Product List Submittal Requirements: Manufacturers seeking evaluation of products for inclusion on the APL shall submit an application in accordance with Section 6 and include the documentation identified in Table 974-3. Documentation and reports must demonstrate that the product meets the requirements of this Section and Section 523.

Table 974-3	
Documentation	Requirements
Product Photo	Displays the significant features of the product.
Technical Data Sheet	Uniquely identifies the product and includes product specifications, storage instructions, and recommended installation materials and equipment as applicable. Include the following information as applicable: 1. Use on concrete surfaces. 2. Use on asphalt surfaces. 3. Use as “Vehicular”. 4. Use as “Non-vehicular”. 5 3. Patterns, textures, and templates. 6 4. Resin, sealers, coatings, coloring, and friction materials. 7 5. Friction material source <u>and rate of application.</u>
Product Label	For each component of the product system.
Safety Data Sheet (SDS)	SDS meeting OSHA requirements for each material used in the product system. <u>Non-Hazardous, per RCRA Subtitle C Table 1 of 40 CFR 261.24 “Toxicity Characteristic” and not exude fumes which are hazardous, toxic, or detrimental to persons or property.</u>
Independent Laboratory Test Report	Skid Test and Integral Color testing as identified in Table 974-4.
Installation Instructions	Surface preparation and installation procedures for different substrates.
Product Sample	Submit upon request from the Department. A sample of each component must be submitted.

~~974-3.2 Performance Requirements: Provide patterned pavement products that meet the performance requirements of Table 974-4.~~

Table 974-4		
Property	Documentation	Test Method and Value

Skid Test ¹	Independent Laboratory Report	ASTM E303 using the British Pendulum Tester, British Pendulum Number (BPN) of at least 40.
Integral Color ^{1,2}	Independent Laboratory Report	Visual inspection, Color is integral and uniform.
Non-Hazardous Classification ^{1,2}	Material Safety Data Sheet (SDS)	Non-Hazardous, per RCRA Subtitle C Table 1 of 40 CFR 261.24 "Toxicity Characteristic" and not exude fumes which are hazardous, toxic, or detrimental to persons or property.
Friction Resistance ²	Product Sample Panel for FDOT Laboratory Test	FM 5-622—Part A, Initial Dynamic Friction Test (DFT40) value of 40 or greater.
¹ For Non-vehicular use. ² For Vehicular use.		

974-3.32 Performance Requirements for Products in Vehicular Traffic Areas: ~~Manufacturers shall install the product on a site provided by the Department and test the installation using an independent testing facility in accordance with FM 5-592. Provide patterned pavement products that meet the performance requirements of Table 974-45.~~

974-3.2.1 Department Testing: ~~Submit product samples and panels for Department analysis upon request from the Department and in accordance with this Specification. Products are subject to verification testing in accordance with this Section and infrared identification curve (2.5 to 15 μm) for the vehicle component.~~

974-3.2.2 Friction Resistance: ~~In-service pavement markings shall maintain a DFT40 value of 40 or greater, or FN 40R value of 35 or greater for a three-year period as tested per FM 5-622-Part B.~~

Property	Documentation	Test Method and Value
Wear	Field Service Test Photos	Visual, Wearing shall not expose more than 15% of the underlying surface area as measured within the traveled way for 3 years.
<u>Initial Friction Resistance</u> [FM 5-622 Part A]	<u>Department Testing Reports</u>	<u>Dynamic Friction Tester (DFT40) ≥ 50</u>
Friction	Independent Testing Facility	FM 5-592, Test using one of the following: a. Locked Wheel Friction Tester—minimum FN40R value of 35 or greater at all testing intervals for 3 years, or b. Dynamic Friction Tester—minimum DFT40 value of 40 or greater at all testing intervals for 3 years.