

EXPECTED IMPLEMENTATION JULY 2022

974 SURFACE APPLICATIONS. (REV 1-27-22) (FA 1-28-22) (7-22)

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. 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.
National Transportation Product Evaluation Program (NTPEP) Test Report or Independent Laboratory	Testing must be conducted using the Project Work Plan for NTPEP Laboratory Testing of Detectable Warning Systems, using the cold exposure category [i.e., 4 repetitions of the following exposure series: Abrasion (4 cycles) followed by

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Table 974-1	
Documentation	Requirements
Test Report	freeze-thaw (15 cycles)].
Independent Laboratory Test Report	Test CAP Y in accordance with ASTM E1349.
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. Manufacturers shall provide before exposure testing and proof that the product has been submitted for exposure testing. All testing shall be complete by July 1, 2023.

Table 974-2			
Property	Documentation	Test Value	
Domes and Spacing Dimensional Testing ¹	Provide NTPEP Test Report or Independent Laboratory Test Report	Meets the requirements of the Americans with Disabilities Act Standards for Transportation Facilities, Section 705.	
Slip Resistance ¹	Provide NTPEP Test Report or Independent Laboratory Test Report	Dry Coefficient of Friction – 0.8 min. Wet Coefficient of Friction – 0.65 min. (include recessed areas between truncated domes).	
Visual and Microscopic Evaluation ¹	Provide NTPEP Test Report or Independent Laboratory Test Report	No lifting, debonding, flaking, missing domes, partial domes, or significant cracking.	
Bond Strength on Uncured (≤ 72 hours) Concrete Panel [AASHTO T 388]	Independent Laboratory Test Report	For surface applied detectable warning systems installed on uncured concrete: 150 psi min. with an elapsed concrete panel cure time of less than 72 hours.	
Color/Contrast ^{1,2} [ASTM G155 / D4355]	Independent Laboratory Test Report	Color	CAP Y
		Safety Yellow	25 – 45
		Brick Red	5 – 15
		Black	0 – 5

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Table 974-2		
Property	Documentation	Test Value
¹ Report values before and after exposure testing.		
² 1,000 hours, UV exposure only.		

974-3 Patterned Pavement.

Provide patterned pavement products that produce an adherent, weather resistant, 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: <ol style="list-style-type: none"> 1. Use on concrete surfaces. 2. Use on asphalt surfaces. 3. Patterns, textures, and templates. 4. Resin, sealers, coatings, coloring, and friction materials. 5. Friction material source and rate of application.
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. 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.
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.

974-3.2.1 Department Testing: Submit product samples and panels for Department analysis upon request from the Department and in accordance with this

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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.

Table 974-4

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.
Initial Friction Resistance [FM 5-622 Part A]	Department Testing Reports	Dynamic Friction Tester (DFT40) ≥ 50

