

ORIGINATION FORM

THE INFORMATION BELOW IS TO BE PROVIDED BY THE ORIGINATOR

Specification: Specification 523, Patterned Textured Pavement

Subject: Revise 523-2.1 and 523-2.2

Origination date: 2/11/2010

Originator: Charles Holzschuher

Office/Phone: 352-955-6341

Problem statement: Update of requirements for the QPL test deck and provide friction testing alternatives by adding the Dynamic Friction Tester (DFT)

Proposed solution: A comprehensive study was conducted at the State Materials Office in 2009 depicting harmonization between a locked wheel tester using ASTM E-274 and a DFT using ASTM E-1911. The report can be found at the following share point location:

<http://smsharepoint.sm.dot.state.fl.us/sites/SMO/pavement/ndt/Friction/Forms/AllItems.aspx?RootFolder=%2fsites%2fSMO%2fpavement%2fndt%2fFriction%2fCrosswalks%2f2009%20FDOT%20Crosswalk%20Research%20Memo&FolderCTID=&View=%7b3E9B236A%2d0E01%2d4D4E%2dAA47%2d75D5218C60B4%7d>

The outcome of the report indicated a good correlation between both the DFT and the locked wheel tester devices. The DFT can be used as an alternative device for friction testing a patterned/textured pavement. Additionally, threshold values were established for use in the updated specification. The impact of the change will create more friction testing options for the crosswalk testing community.

Information source: Dynamic Friction Tester Contacts:

1. Michael Alan Heitzman
Assistant Director
277 Technology Parkway, Auburn
Phone: (334) 844-7309, Fax: (334) 844-6248
E-mail: mah0016@auburn.edu



Florida Department of Transportation

CHARLIE CRIST
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

STEPHANIE KOPELOUSOS
SECRETARY

MEMORANDUM

DATE: June 18, 2010
TO: Specification Review Distribution List
FROM: Rudy Powell, Jr., P.E., State Specifications Engineer
SUBJECT: Proposed Specification: **5230200 Patterned/Textured Pavement**

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

This change was proposed by Charles Holzschuher of the State Materials Office to update the requirements for the QPL test deck and to provide friction testing alternatives by adding the Dynamic Friction Tester (DFT).

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 to my attention via e-mail at ST986RP or rudy.powell@dot.state.fl.us. Comments received after **July 16, 2010**, may not be considered. Your input is encouraged.

RP/dt
Attachment

PATTERNED/TEXTURED PAVEMENT.
(REV 6-1-10)

ARTICLE 523-2 (Pages 655 – 656) is deleted and the following substituted:

523-2 Materials.

523-2.1 Qualified Products List (QPL): Use only patterned/textured pavement products listed on the ~~QPL~~**Qualified Products List**. Meet manufacturer's specifications for all pattern/texture templates, coating and coloring materials. Use only material that is delivered to the job site in sealed containers bearing the manufacturer's original labels.

Material coatings used to achieve the pattern/texture and/or color shall produce an adherent, weather resistant, skid resistant surface capable of resisting deformation to traffic. Surface marking materials must meet the requirements of this Specification and Section 971 with the following exceptions:

1. Color and reflectivity requirements do not apply. Surfaces shall not be made retroreflective.
2. Requirements for minimum set to bear traffic time, do not apply. Do not open to traffic until the coating material has sufficiently dried or cured and is ready to withstand traffic.
3. For thermoplastic materials, the requirements for alkyd based materials only in 971-5.1 and minimum binder content of 971-5.2, do not apply.
4. For thermoplastic materials, the indentation resistance requirements and minimum flashpoint requirements of 971-5.5, do not apply.

Manufacturers seeking approval of their product for inclusion on the QPL must submit an application in accordance with Section 6 along with the following documentation:

1. Manufacturer's specifications and procedures for materials and installation.
2. Manufacturer's Laboratory test data from an independent laboratory verifying the material meets the requirements of this Section.
3. Test data from an independent source verifying that the patterned/textured pavement installed in accordance with the manufacturer's specifications and procedures has been tested in accordance with *either* the ASTM E-274, Skid Resistance of Paved Surfaces using a standard ribbed full Scale Tire at a speed of 40 mph (FN40R), and has a minimum FN40R value of 35, *or ASTM E-1911, Measuring Paved Surface Frictional Properties Using the Dynamic Friction Tester at a speed of 40 mph (DFT40), and has a minimum of DFT40 value of 40.*

523-2.2 Performance Requirements: QPL approval will be contingent on a field service test demonstrating that the imprinted texture and coating materials meet the following performance measures at the end of three years from opening to traffic:

1. The imprint must maintain a depth of 50% of the original installed depth and width.
2. Wearing of the material coating shall not expose more than 15% of the underlying surface area.
3. Friction performance of patterned/textured pavement materials must meet or exceed *one of the following test method values:*

- (a) ~~an~~ FN40R value of 35 in accordance with ASTM E-274; *or,*

(b) DFT40 value of 40 in accordance with ASTM E-1911

The field service test installation shall be within a marked crosswalk on a roadway with an ADT of 8,000 to 12,000 -vehicles per day per lane, approved by the ~~State Materials Office~~ *Department*. The test installation shall be a minimum six feet wide and extend from pavement edge to pavement edge across all traffic lanes and shoulder pavement at the crosswalk location. The test installation will be tested ~~for skid resistance and wear~~ in accordance with the specifications *FM 5-592*.

2. Shima American Corporation – United States Nippo Sangyo Distributor
222 Spring Lake Drive, Itasca, IL 60143
Sally Suzuki – Sales Coordinator
Direct Tel: 630-760-4333
Fax: 630-285-0824
E-Mail: ssuzuki@shimausa.com

3. Nippo Sangyo Co., Ltd. - Manufacturer
12-7, Higashi-Tokura 2-Chome
Kokubunji-shi, Tokyo 185-0002, Japan
Tel: 042-323-8861 Fax: 042-321-3890
E-Mail: info@nippou.com
URL: <http://www.nippou.com/>

4. John J. Henry – Friction Experience
E-Mail: jjhenry123@aol.com
Tel: 814-643-4474
Fax: 814-643-6428

5. Joel Visser – Calibration and DFT expert
E-Mail: jvssr7001@imt.net
Primary Tel: 406-282-7001
Emergency Tel: 406-582-9801 ext. 105

6. Ayesha Shah, Ph.D. – Research Engineer
North Central Superpave Center
1205 Montgomery Street
P. O. Box 2382
West Lafayette, IN 47906
(765) 463-2317 extension 227 *phone*
(765) 497-2402 *fax*
bano@purdue.edu *e-mail*

Recommended Usage Note: The DFT is a site specific device and will require Maintenance of Traffic when operated on roadways.

Estimated fiscal impact, if implemented:

Implementation of these changes, if and when approved, will begin with the January 2011 letting.