

## ORIGINATION FORM

Date: May 14, 2014

Originator: Chester A. Henson, P.E.

Contact Information: **chester.henson@dot.state.fl.us**

Specification Title: **Traffic Marking Materials**

Specification Section, Article, or Subarticle Number: **Section 971-10**

Why does the existing language need to be changed? Section 971-10 should be removed since the wet weather markings (Section 702) has being pulled from the specifications.

Summary of the changes: Removed Section 971-10

Are these changes applicable to all Department jobs? Yes

If not, what are the restrictions?

Will these changes result in an increase or decrease in project costs? No

If yes, what is the estimated change in costs?

With who have you discussed these changes? Specifications, Construction and Maintenance

What other offices will be impacted by these changes? None

Are changes needed to the PPM, Design Standards, SDG, CPAM or other manual? None

Are all references to external publications current? Yes

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

Is a Design Bulletin, Construction Memo, or Estimates Bulletin needed? No

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

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ANANTH PRASAD, P.E.  
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**MEMORANDUM**

**DATE:** July 1, 2014  
**TO:** Specification Review Distribution List  
**FROM:** Daniel Scheer, P.E., State Specifications Engineer  
**SUBJECT:** Proposed Specification: **9710701 Traffic Marking Materials.**

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

This change was proposed by Chester Henson of the State Roadway Design Office to delete language for wet weather markings, as these markings have been removed from the Standard Specifications. The Department is moving to a developmental specification which will require continuous wet weather pavement marking retroreflectivity requirements and testing.

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://www2.dot.state.fl.us/SpecificationsEstimates/Development/IndustryReview.aspx> . Comments received after **July 29, 2014**, may not be considered. Your input is encouraged.

DS/dt  
Attachment

**TRAFFIC MARKING MATERIALS.**  
**(REV 6-26-14)**

SUBARTICLE 971-7.1 is deleted and the following substituted:

**971-7.1 General:** The materials for pavement stripes and markings shall consist of white or yellow weather-resistant reflective film as specified herein. ~~The markings are classified as High Performance.~~ The pigment, glass spheres, and filler shall be well dispersed in the resin. However, the requirements delineated in this Specification and Section 713 shall apply. The material shall be free from all skins, dirt and foreign objects.

ARTICLE 971-10 is deleted.

~~**971-10 Thermoplastic Material for Wet Weather Pavement Markings.**~~

~~**971-10.1 General:** Upon cooling to normal pavement temperature, the thermoplastic material shall produce an adherent, reflective pavement marking capable of resisting deformation by traffic. The manufacturer shall utilize alkyd-based materials only and shall have the option of formulating the material according to their specifications. However, the requirements delineated in this specification shall apply regardless of the type of formulation used. The pigment, reflective elements, and filler shall be well dispersed in the resin. The material shall be free from all skins, dirt and foreign objects.~~

~~**971-10.2 Composition:**~~

Component	Test Method	White	Yellow
Binder		20.0% minimum	20.0% minimum
TiO <sub>2</sub> , Type II Ructile	ASTM D476	10.0% minimum	N/A
Reflective Elements (intermix)	AASHTO T250	% minimum per manufacturer	% minimum per manufacturer
Yellow Pigment		N/A	% minimum per manufacturer
Calcium Carbonate and Inert Filler (200 mesh sieve)		% minimum per manufacturer	% minimum per manufacturer

~~Percentages are by weight.~~

~~**971-10.3 Retroreflective Elements:** The reflective elements in the intermix shall be determined by the manufacturer and identified for the QPL System.~~

~~**971-10.4 Physical Requirements:** Laboratory samples shall be prepared in accordance with ASTM D4960 and shall meet the following criteria:~~

Property	Test Method	Minimum	Maximum
Water Absorption	ASTM D570	-	0.5%
Softening Point	ASTM D36	200°F	-
Low Temperature Stress Resistance	AASHTO T250	Pass	-
Specific Gravity	Water displacement	1.9	2.3
Indentation Resistance	ASTM D7735* Type A Durometer	40	-
Impact Resistance	ASTM D256, Method A	1.0 N-m	-
Flash Point	ASTM D92	475°F	-

\*The durometer and panel shall be at 90°F with a 1000 g load applied. Instrument measurement shall be taken after 15 seconds.

~~**971-10.4.1 Set To Bear Traffic Time:** When applied at the temperatures and thickness specified by Section 702, the baseline material shall set to bear traffic in not more than two minutes. When the audible bump is required, the bump shall set to bear traffic in not more than 10 minutes at ambient air temperatures of 80°F or less and in not more than 15 minutes for ambient air temperatures exceeding 80°F.~~

~~**971-10.4.2 Retroreflectivity:** The white and yellow pavement markings shall attain an initial dry retroreflectivity of not less than 300 mcd/lx-m<sup>2</sup> and not less than 250 mcd/lx-m<sup>2</sup>, respectively, and also attain an initial wet recovery retroreflectivity of not less than 150 mcd/lx-m<sup>2</sup> and not less than 125 mcd/lx-m<sup>2</sup>, respectively. The dry retroreflectance of the white and yellow pavement markings at the end of the three year service life shall not be less than 150 mcd/lx-m<sup>2</sup>, and also the wet recovery retroreflectivity at the end of the service life shall not be less than 75 mcd/lx-m<sup>2</sup>. The retroreflectivity will be determined in accordance with FM 5-541 for dry and ASTM E2177 (Bucket Method) for wet recovery.~~

~~**971-10.4.3 Durability:** When an audible bump is required, durability shall include flattening of the profile or raised portions of the line. The flattening of the profile or raised portion of the line shall not exceed 25% at the end of the three year service life.~~

~~**971-10.5 Application Properties:** Application properties shall meet the requirements of Section 702.~~

~~**971-10.6 Packing and Labeling:** The thermoplastic material shall be packaged in suitable biodegradable or thermo-degradable containers which will not adhere to the product during shipment and storage. The container of thermoplastic material shall weigh approximately 50 pounds. The label shall warn the user that the material shall be heated in the range as recommended by the manufacturer.~~