

**RESPONSE 2** Comments Received From Industry Review  
Section 711

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Bill Richards

File: 7110000 – Thermoplastic Traffic Stripes and Markings  
Username: Bill Richards  
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Remote Name: 156.75.65.83  
Date: Wednesday, June 08, 2005  
Time: 12:55:33 PM

Comment:

In 711-4.1, why place the removal of existing pavement markings in 102-5.9. 102-5.9 specifies that the removal of marking for specific reasons is covered in the Lump Sum MOT items and the BOE is also covers what is to be handled in this Lump Sum pay item. Since there is a pay item for removal of existing pavement markings (709-7), this sub article should have the last sentence of the first paragraph, concerning payment for removal, removed.

**Response:** The sentence has been removed from the specifications.

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Donald Rauch

Proposed Specification revision of 7110000 – Thermoplastic Traffic Stripes and Markings  
Comment:

Need to change FM 5-541 to FM 5-579 in the following locations: 711-4.1 and 711-4.3

**Response:** The reference to the FM will be changed.

Donald E. Rauch, P.E.  
D2 Construction QA Engineer

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Henri Belrose

Comment:

Under section 711-4.1, payment for marking removal is proposed to be in accordance with 102-5.9. The proposed changes to section 102-5.9 state that the cost for removal of conflicting pavement markings (paint or thermo) will be included in Lump Sum MOT.

**Response:** The sentence has been removed from the specifications.

Comment:

The proposed changes for section 710 delete pay item no. 710-11. Will pay item no. 711-7 also be deleted? There is no strikethrough of this pay item in the proposed spec.

**Response:** No, the pay item for 711-7 will remain as a valid pay item.

Comment:

Can I expect these changes to be implemented for lettings beginning January 2006?

**Response:** These specifications revisions are proposed for all projects let beginning January 2006.

Henri V. Belrose, PE  
Reynolds, Smith and Hills, Inc.

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Mike Ruland

File: 7110000 – Thermoplastic Traffic Stripes and Markings  
Username: Mike Ruland, P.E  
UserEmail: michael.ruland@dot.state.fl.us  
UserTel: (386)258-4445 or SUNCOM 380-4445  
Date: Tuesday, June 21, 2005  
Time: 11:11:27 AM

Comment:

Possibly add verbiage that any asphalt pavement that is damaged as a result of existing striping removal shall be replaced at no additional cost.

**Response:** In Section 713-4.1, the method of removal must be approved by the Engineer. This should preclude methods which damage the pavement.

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Eric Jagers

File: 7110000 – Thermoplastic Traffic Stripes and Markings

Username: Eric Jagers  
UserTel: 352-315-3100  
Date: Tuesday, June 21, 2005  
Time: 09:26:43 AM

Comment:

1 mile to reapply due to deficiency seems excessive.

**Response:** This is consistent with what has been in Specifications for all marking with deficiencies.

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Charles Doyle

File: 7110000 – Thermoplastic Traffic Stripes and Markings  
Username: charlie  
UserEmail: charlie.doyle@pottersbeads.com  
UserTel: 678-560-5706  
UserFAX: 678-560-5716  
Date: Thursday, June 23, 2005  
Time: 09:29:52 AM

Comment:

711-2.1

Need some terminology in the spec that allows for testing of the thermoplastic intermix to ensure that the 50% mix of standard beads and type 3 glass beads is respected. Without this inspection, there is no way of telling if the proper quantity and mix of beads is correct. I will e mail you a copy of a thermoplastic intermix spec to review.

**Response:** The gradation will be checked during the requalification of manufactures on QPL, and during the QC monitoring on projects.

Comment:

711-2.1.1 and 711-2.1.2

What is the difference between recap and refurbishment? Seems like they are quite similar. Why have 2 two similar products? They could be combined requiring 60 mils of spray Thermo with a single drop of type 3 beads. This would help in keeping the specs simple.

**Response:** Recapping is the correction of a deficiency during initial application. Refurbishment is the routine application of additional material over an existing line to restore the markings.

Comment:

711-2.1.1

Recapping shows hot spray. We know this is an old spec that provides very little bead retention, and thus very poor reflectivity. Why use a spec that does not perform well, when the State is trying to upgrade its overall pavement markings?  
WE suggest a 60 mil spray thermo with a single drop of type 3 bead.

**Response:** The use of Hot Spray (971-6) is only used by maintenance and then should only be used when a short period of restoration of the marking is needed to extend the marking to future improvements on the roadway.

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Mayur Patel

File: 7110000 – Thermoplastic Traffic Stripes and Markings  
Username: Mayur Patel  
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UserTel: 352 955 6626  
Date: Friday, June 24, 2005  
Time: 05:24:13 PM

Comment:

700 series:

701-4.1, 702-4.1, 709-4.1, 711-4.1 and 713-4.1, Make the change to these sections as it is written in 710-4.1, remove "The Engineer change will conduct field testing in accordance to....." to "conduct field testing in accordance to...."

**Response:** The comment will be included in the specification.

Comment:

701-4.6, 702-4.3, 709-4.3, 710-4.3, 711-4.3 and 713-4.3, the reference to FM 5-541 should be changed to FM 5-579 for retro-reflectivity measurements. Also, the wording should be "Measure and record test data, certify..... no later than the next working day..." Make the language same as SMO proposal for the draft Spec 713 regarding use of CQC arrangements and frequencies.

**Response:** The reference to FM 5-541 will be changed to FM 5-579 in the specification. Added word "record" to the sentence and modified the reference for the FM.

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Flint Trading, Inc.

Comment:

**Add** the following: "711-3.1 General:" Use equipment...

**Add** the following section after 711-3.1: “711-3.2 Preformed Thermoplastic: Use equipment which is suitable for the application of preformed thermoplastic striping material on both concrete and asphalt surfaces. Use equipment which meets the following requirements:

- a) capable of producing a short fan-shaped flame without carburizing components which provides evenly distributed heat at a rate of 200,000 BTU to facilitate even glass sphere embedment at 50%-60%.
- b) U.L. Listed

If such heating equipment is not used, the preformed thermoplastic material must provide a visual cue that would attain 50%-60% glass sphere embedment.”

**Response:** The wording will remain as stated.

Comment:

**Add** the following section after 711-4.1 General: “711-4.1.2 Preformed Thermoplastic: Apply markings only to dry surfaces and when the ambient air temperatures is 32 degrees F or above. For Portland Cement Concrete surfaces, use primer/sealer recommended by the manufacturer. Prior to installation, follow the manufacturer’s recommendations for either “pre-heating” or no pre-heating” of the road surface to a specific temperature.”

**Response:** Will add additional information for preformed materials.

Comment:

Section 711-4.3 Retroreflectivity: **Replace** the last sentence of the first paragraph that begins “This does not apply to bike lane symbols.... proposed bike lane” with the following sentence “All pedestrian crosswalks, bike lane symbols, and messages in a proposed bike lane shall attain initial retroreflectivity of not less than 275 mcd/lx.m<sup>2</sup>.”

**Response:** Will add retroreflectivity for pedestrian crosswalks, bike lane symbols and messages in bike path.

Comment:

**Add** the following sentence after the last sentence in Section 711-4.5.1 Longitudinal Lines: “Preformed thermoplastic markings are factory supplied with reflective glass spheres. No glass spheres should be applied during installation.

**Add** the following sentence at the end of the first paragraph of Section 711-4.5.2 Transverse Stripes and Markings: “Preformed thermoplastic markings are factory supplied with reflective glass spheres. No glass spheres should be applied during installation.”

**Add** the following sentence at the end of the second paragraph of Section 711-4.5.2 Transverse Stripes and Markings: "Preformed thermoplastic markings for pedestrian crosswalk lines and bike symbols shall be supplied with reflective glass spheres and sharp silica sand which meets reflectivity and skid resistance requirements in 971-7."

**Response:** Will add section for application of glass spheres for preformed materials.

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Tim Parker

Specifications recommendations per our ATSSA meeting on June 15<sup>th</sup>

The Florida Chapter of ATSSA is fully supportive of the department's initiative to increase the reflectivity and service life of pavement markings. This effort will make Florida's roadways much safer, and will undoubtedly reduce traffic accidents, injuries and deaths. As a group though, we are very concerned with the lack of good data in which the new reflectivity requirements are based. We think some of the requirements are attainable but we really don't know. We therefore recommend that a one year test period is enacted with the new material specifications. This would enable a years worth of data to be accumulated and evaluated prior to setting the final requirements.

Comment:

Contractors and suppliers would first recommend that the department write Supplemental agreements to existing construction and maintenance striping projects . These SA's would specify the use of the new thermoplastic material specifications. This would include initial thermo installation (double drop type 1 & 4 beads) and refurbishment of existing striping (single drop with type 3). Collect the reflectivity data for one year and then based on the data collected set the initial retroreflectivity levels and 180 day levels.

**Response:** We will continue to try and supplement contracts under the existing specifications and monitor the reflectivity. The new specifications will however go into effect with all projects beginning January 2006.

Comment:

If the department is unwilling to do a year long study then Industry recommends initial retroreflectivity for thermoplastic longitudinal lines should be white 450 and yellow 300 . Initial retroreflectivity for thermoplastic handwork should be white 250 and yellow 175.

**Response:** The retroreflectivity values are achievable and will not be revised.

Comment:

Centerline, laneline and edgelines would be 125 mils thick. All handwork would be 100 mils thick. ( arrows, messages, crosswalks, stop bars and transverse lines.)

**Response:** The thickness' as stated will be used for the proposed specification. As we test other means of application, we will consider increasing the thickness of center lines, lane lines and edge lines.

Comment:

Delete section 971-6 (Hot Spray) use thermoplastic sprayed at 60 mils with a type 3 bead. Thermo would be a regular 40% bead intermix, alkyd material, for refurbishing existing markings. Initial Reflectivity requirements for white 300 for yellow 250.

**Response:** This section does have an application in maintenance when the marking life needs to be extended for a short period of time. I agree that this should not be used for normal refurbishment of pavement markings.

Comment:

There should be no night time color requirement for yellow as it now states in the current Florida Test method. The Florida test method has numerous test procedures (wet reflective, audible, nighttime, etc that don't apply to every type of product. Yet the test method reads as if all tests are performed on all products.

**Response:** Our materials office has evaluated the nighttime color of our current materials, and has advised us that they currently meet the nighttime color requirements. You are correct, the Contractor will be required to check the thickness, width, day and nighttime color and embedment for all materials. Wet reflectivity measurements are not required by the Contractor. Audibility measurements are only for raised rib shoulder markings.

Comment:

Contractor to measure and certify on department approved forms, the retroreflectivity of white and yellow pavement markings. These certifications will be submitted to the engineer prior to acceptance. The department would have 3 days to check the reflectivity numbers that the contractor turns in. The contractor does not have to turn reflectivity numbers into the department the next day.

**Response:** You are correct.

Comment:

Contractors **would not** be required to take 3 reflectivity readings for each arrow, message, crosswalk, stop bar and transverse lines. This is too much a burden on the contractor. We would all have to hire people just to keep up the paperwork and to take

readings. This can become a safety issue. Contractors would almost have to set up lane closures in some cases.

**Response:** Until a better method can be found, this will be the procedure. Granted it is a lot of front end work, but it does alleviate problems when discrepancies are found and correctional work has to be done.

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