

ORIGINATION FORM

THE INFORMATION BELOW IS TO BE PROVIDED BY THE ORIGINATOR

(The person who receives or originates the issue and needs to forward the issue for action.)

Specification: Section 330-2.2, 330-9.2.4.1, 330-12.4.5.3 and 330-12.4.5.4.

Subject: Hot Bituminous Mixtures-General Construction Requirements

Origination date: September 14, 2009

Originator: David Wang

Office/Phone: State Construction office/850-414-4152

Problem statement: 1. No max. spread rate tolerance for correction of deficient pavement thickness. 2. No QC requirement for temporary pavement and final structural layer when the roadway is opened to traffic with design speed \geq 55mph.

Proposed solution: Establish max. Spread rate tolerance to improve the pavement thickness control (330-2.2 and 330-9.2.4.1) and add QC requirements for smoothness control on temporary pavement and final structural layer on high speed roadway (330-12.4.5.3 and 330-12.4.5.4).

Information source: David Wang, State Construction Office.

Recommended Usage Note: No change.

Estimated fiscal impact, if implemented:

Implementation of these changes, if and when approved, will begin with the ~~July~~ **January 2010 letting.**



Florida Department of Transportation

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M E M O R A N D U M

DATE: October 14, 2009

TO: Specification Review Distribution List

FROM: Rudy Powell, Jr., P.E., State Specifications Engineer

SUBJECT: Proposed Specification: 3300202 Hot Bituminous Mixtures - General Construction Requirements

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

This change was proposed by David Wang, of the State Construction Office to establish a spread rate tolerance to improve the pavement thickness control and add QC requirements for smoothness control on temporary pavements and final structural layers on high speed roadway that will be opened to traffic.

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 **November 13, 2009** may not be considered. Your input is encouraged.

RP/jf
Attachment

HOT BITUMINOUS MIXTURES - GENERAL CONSTRUCTION REQUIREMENTS. **(REV 10-6-09)**

SUBARTICLE 330-2.2 of the Supplemental Specifications is deleted and the following substituted:

330-2.2 Minimum Process Control Testing Requirements: Perform, as a minimum, the following activities at the testing frequencies provided below:

Asphalt Plant

1. Asphalt Mix: Determine the asphalt binder content; mix gradation and volumetric properties at a minimum frequency of one per day. In the event that the daily production exceeds 1,000 tons, perform these tests a minimum of two times per day. Quality Control tests used in the acceptance decision may be used to fulfill this requirement. Verify modifier addition.
2. Aggregate: Test one sample for gradation per 1,000 tons of incoming aggregate, as it is stockpiled.
3. Aggregate moisture content from stockpiles or combined cold feed aggregate - one per day.
4. RAP: Test one sample per 1000 tons of incoming material (prior to incorporation into the mix) for gradation and asphalt binder content. Test one sample per 5,000 tons of incoming material (prior to incorporation into the mix) for maximum specific gravity (G_{mm}) and recovered viscosity.
5. Mix temperature at the plant for the first five loads and one out of every five loads thereafter.
6. Other tests (as determined necessary by the Contractor) for process control.

Roadway

1. Monitor the pavement temperature with an infrared temperature device. Monitor the roadway density with either 6 inches diameter roadway cores, a nuclear density gauge, or other density measuring device, at a minimum frequency of once per 1,500 feet of pavement. When the layer thickness is greater than or equal to 1 inch (or the spread rate is greater than or equal to 105 lb/yd²) and an approved rolling pattern is used in lieu of density testing, identify in the QC Plan how the pavement density will be monitored.
2. Mix temperature at the roadway for the first five loads and one out of every five loads thereafter.
3. Monitor the pavement smoothness with a 15-foot rolling straightedge, as required by these specifications.
4. Monitor the pavement cross slope at a frequency necessary to fulfill the requirements of these specifications, and identify a system to control the cross slope of each pavement layer during construction.
5. Monitor the mix spread rate at the beginning of each day's production, and as needed to control the operations, at a minimum of once per 200 tons placed to ensure that the spread rate is within 5% of the target spread rate. When determining the spread rate, use, *at a minimum*, an average of five truckloads of mix. *When the average spread rate is beyond the*

acceptable tolerance (+/- 5% of the target spread rate), monitor the thickness of the pavement layer closely and adjust the construction operations.

If the Contractor fails to maintain *an average spread rate within the acceptable tolerance (+/- 5% of the target spread rate) for two consecutive days*, ~~the construction process in accordance with the quality control requirements herein stated~~, the Engineer may elect to stop the construction operation at any time until the *problem is resolved* ~~deficiencies are corrected~~.

When the deficiency of the average spread rate exceeds the maximum spread rate tolerance as specified in 330-9.2.4, address the deficient area in accordance with 330-12.5.

SUBARTICLE 330-9.2.4 of the Supplemental Specifications is deleted and the following substituted:

330-9.2.4 Correcting Defects: Before starting any rolling, check the surface; correct any irregularities; remove all drippings, fat sandy accumulations from the screed, and fat spots from any source; and replace them with satisfactory material. Do not skin patch. When correcting a depression while the mixture is hot, scarify the surface and add fresh mixture.

When the deficiency of the average spread rate measured in accordance with 330-2.2 exceeds the following maximum spread rate tolerance, address the deficient area in accordance with 330-12.5.

(1) For pavement of a design thickness of 2-1/2 inches or more: +/- 50 lbs/sy.

(2) For pavement of a design thickness of less than 2-1/2 inches: +/- 25 lbs/sy.

(3) For open grade friction course: +/- 25 lbs/sy.

As an exception to the above, pavement outside the main roadway area (acceleration and deceleration lanes, crossovers, intersections) or any area which the Engineer determines that the pavement will satisfactorily perform its intended function without correction, the pavement may be left in place as approved by the Engineer.

SUBARTICLE 330-12.4.5.3 of the Supplemental Specifications is deleted and the following substituted:

330-12.4.5.3 Intermediate Layers *and Temporary Pavement*: When the design speed is 55 mph or greater, the intermediate Type SP layer *or temporary pavement* will be opened to traffic, and the Engineer identifies a surface irregularity that is determined to be objectionable, straightedge and address all deficiencies in excess of 3/8 inch within 72 hours of placement in accordance with 330-12.5.

SUBARTICLE 330-12.4.5.4 of the Supplemental Specifications is deleted and the following substituted:

330-12.4.5.4 Final Type SP Structural Layer: Straightedge the final Type SP structural layer in accordance with 330-12.4.2, either behind the final roller of the paving train or as a separate operation. Notify the Engineer of the location and time of

straightedge testing a minimum of 48 hours before beginning testing. The Engineer will verify the straightedge testing by observing the Quality Control straightedging operations. Address all deficiencies in excess of 3/16 inch in accordance with 330-12.5.

- *When the final structural course will be opened to traffic, the design speed is 55 mph or greater, and the defect is 3/8" or greater, the Engineer may require any deficiencies to be corrected within 72 hours before opening to traffic.*

For bicycle paths, straightedge the final Type SP structural layer with a rolling straightedge, either behind the final roller of the paving train or as a separate operation. Address all deficiencies in excess of 5/16 inch in accordance with 330-12.5. If the Engineer determines that the deficiencies on the bicycle path are due to field geometrical conditions, the Engineer will waive corrections with no deduction to the pay item quantity.