

ORINATION FORM
Proposed Revisions to the Specifications

(Please provide all information - incomplete forms will be returned)

Date:

Office:

Originator:

Specification Section:

Telephone:

Article/Subarticle:

email:

****Will the proposed revision require changes to:**

Publication	Yes	No	Office Staff Contacted and date contacted
Standard Plans Index			
Traffic Engineering Manual			
FDOT Design Manual			
Construction Project Administration Manual			
Basis of Estimate/Pay Items			
Structures Design Guidelines			
Approved Product List			
Materials Manual			

**This section must be completed prior to processing proposed revisions.

Will this revision necessitate any of the following:

Design Bulletin

Construction Bulletin

Estimates Bulletin

Materials Bulletin

Are all references to external publications current?

Yes

No

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

Why does the existing language need to be changed?

Summary of the changes:

Are these changes applicable to all Department jobs?

Yes

No

If not, what are the restrictions?



RON DESANTIS
GOVERNOR

KEVIN J. THIBAUT, P.E.
SECRETARY

M E M O R A N D U M

DATE: June 25, 2020
TO: Specification Review Distribution List
FROM: Daniel Strickland, P.E., State Specifications Engineer
SUBJECT: Proposed Specification: **3370205 ASPHALT CONCRETE FRICTION COURSE**

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

This change was proposed by Wayne Rilko to update test and Table language, delete the word "mineral" and replace with "fibers" in 337-9.1, and replace the word "rubber" in 337-9.1 and 337-9.2 with "asphalt binder" in the Standard Specification.

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://fdotewp1.dot.state.fl.us/programmanagement/development/industryreview.aspx> . Comments received after **July 23, 2020**, may not be considered. Your input is encouraged.

DS/dh

Attachment

**ASPHALT CONCRETE FRICTION COURSES
(REV 5-8-20)**

SUBARTICLE 337-2.5 is deleted and the following substituted:

337-2.5 Hydrated Lime: Meet the requirements of AASHTO M 303-89 (2019~~0~~), Type 1. Provide certified test results for each shipment of hydrated lime indicating compliance with the specifications.

SUBARTICLE 337-6.2 is deleted and the following substituted:

337-6.2 FC-5: Meet the requirements of 334-5 with the following exceptions:

1. The mixture will be accepted with respect to gradation (P_{3/8}, P₄, and P₈), and asphalt binder content (P_b) only.
2. Testing in accordance with AASHTO T 312-19~~2~~ and FM 1-T 209 (and conditioning prior to testing) will not be required as part of 334-5.1.1.
3. The standard LOT size of FC-5 will be 2,000 tons, with each LOT subdivided into four equal sublots of 500 tons each.
4. The Between-Laboratory Precision Values described in Table 334-7~~5~~ are modified to include (P_{3/8}, P₄, and P₈) with a maximum difference per FM 1-T 030 (Figure 2).
5. Table 334-6~~4~~ (Master Production Range) is replaced by Table 337-2.
6. The mixture will be accepted on the roadway with respect to surface tolerance in accordance with 334-5.8. No density testing will be required for these mixtures.

Table 337-2 FC-5 Master Production Range	
Characteristic	Tolerance (1)
Asphalt Binder Content (%)	Target ± 0.60
Passing 3/8 inch Sieve (%)	Target ± 7.50
Passing No. 4 Sieve (%)	Target ± 6.00
Passing No. 8 Sieve (%)	Target ± 3.50
(1) Tolerances for sample size of n = 1 from the verified mix design	

SUBARTICLE 337-9.1 is deleted and the following substituted:

337-9 Special Equipment Requirements for FC-5.

337-9.1 Fiber Supply System: Use a separate feed system to accurately proportion the required quantity of ~~mineral~~ fibers into the mixture in such a manner that uniform distribution is obtained. Interlock the proportioning device with the aggregate feed or weigh system to maintain the correct proportions for all rates of production and batch sizes. Control the proportion of fibers to within plus or minus 10% of the amount of fibers required. Provide flow indicators or sensing devices for the fiber system, interlocked with plant controls so that the mixture production will be interrupted if introduction of the fiber fails.

When a batch plant is used, add the fiber to the aggregate in the weigh hopper or

as approved and directed by the Engineer. Increase the batch dry mixing time by 8 to 12 seconds, or as directed by the Engineer, from the time the aggregate is completely emptied into the pugmill. Ensure that the fibers are uniformly distributed prior to the addition of asphalt ~~binder~~~~rubber~~ into the pugmill.

When a drum-mix plant is used, add and uniformly disperse the fiber with the aggregate prior to the addition of the asphalt ~~binder~~~~rubber~~. Add the fiber in such a manner that it will not become entrained in the exhaust system of the drier or plant.

SUBARTICLE 337-9.2 is deleted and the following substituted:

337-9.2 Hydrated Lime Supply System: For FC-5 mixes containing granite, use a separate feed system to accurately proportion the required quantity of hydrated lime into the mixture in such a manner that uniform coating of the aggregate is obtained prior to the addition of the asphalt ~~binder~~~~rubber~~. Add the hydrated lime in such a manner that it will not become entrained in the exhaust system of the drier or plant. Interlock the proportioning device with the aggregate feed or weigh system to maintain the correct proportions for all rates of production and batch sizes and to ensure that all mixture produced is properly treated with hydrated lime. Control the proportion of hydrated lime to within plus or minus 10% of the amount of hydrated lime required. Provide and interlock flow indicators or sensing devices for the hydrated lime system with plant controls so that the mixture production will be interrupted if introduction of the hydrated lime fails. The addition of the hydrated lime to the aggregate may be accomplished by Method A or B as follows:

SUBARTICLE 337-9.2.1 is deleted and the following substituted:

337-9.2.1 Method A - Dry Form: Add hydrated lime in a dry form to the mixture according to the type of asphalt plant being used.

When a batch plant is used, add the hydrated lime to the aggregate in the weigh hopper or as approved and directed by the Engineer. Increase the batch dry mixing time by eight to twelve seconds, or as directed by the Engineer, from the time the aggregate is completely emptied into the pugmill. Uniformly distribute the hydrated lime prior to the addition of asphalt ~~binder~~~~rubber~~ into the pugmill.

When a drum-mix plant is used, add and uniformly disperse the hydrated lime to the aggregate prior to the addition of the asphalt ~~binder~~~~rubber~~. Add the hydrated lime in such a manner that it will not become entrained in the exhaust system of the drier or plant.

ARTICLE 337-10 is deleted and the following substituted:

337-10 Failing Material.

Meet the requirements of 334-5.9. For FC-5, use the Master Production Range defined in Table 337-2 in lieu of Table 334-~~6~~~~4~~.

SUBARTICLE 337-12.3 is deleted and the following substituted:

337-12.3 FC-5: Meet the requirements of 334-8 with the following exceptions:

1. Pay factors will be calculated for asphalt binder content and the percentages passing the 3/8 inch, the No. 4, and the No. 8 sieves only.
2. Table 337-3 replaces Table 334-~~86~~.
3. Table 337-4 replaces Table 334-~~97~~.
4. The Composite Pay Factor equation in 334-8.3 is replaced with the following:

$$\text{CPF} = [(0.20 \times \text{PF } 3/8 \text{ inch}) + (0.30 \times \text{PF No. 4}) + (0.10 \times \text{PF No. 8}) + (0.40 \times \text{PF AC})]$$

Table 337-3 Small Quantity Pay Table for FC-5		
Pay Factor	1-Test Deviation	2-Test Average Deviation
Asphalt Binder Content (%)		
1.00	0.00-0.50	0.00-0.35
0.90	0.51-0.60	0.36-0.42
0.80	>0.60	>0.42
3/8 inch Sieve (%)		
1.00	0.00-6.50	0.00-4.60
0.90	6.51-7.50	4.61-5.30
0.80	>7.50	>5.30
No. 4 Sieve (%)		
1.00	0.00-5.00	0.00-3.54
0.90	5.01-6.00	3.55-4.24
0.80	>6.00	>4.24
No. 8 Sieve (%)		
1.00	0.00-3.00	0.00-2.12
0.90	3.01-3.50	2.13-2.47
0.80	>3.50	>2.47

Table 337-4 Specification Limits for FC-5	
Quality Characteristic	Specification Limits
Asphalt Binder Content (%)	Target ± 0.45
Passing 3/8 inch sieve (%)	Target ± 6.00
Passing No. 4 sieve (%)	Target ± 4.50
Passing No. 8 sieve (%)	Target ± 2.50