



Florida Department of Transportation

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GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

ANANTH PRASAD, P.E.
SECRETARY

July 16, 2012

Monica Gourdine
Program Operations Engineer
Federal Highway Administration
545 John Knox Road, Suite 200
Tallahassee, Florida 32303

Re: Office of Design, Specifications
Section **337**
Proposed Specification: **3370205 Asphalt Concrete Friction Course.**

Dear Ms. Gourdine:

We are submitting, for your approval, two copies of the above referenced Supplemental Specification.

These changes were proposed by Greg Sholar of the State Materials Office to update the language for current Department and Industry practice and for formatting.

Please review and transmit your comments, if any, within two weeks. Comments should be sent via email to SP965TT or trey.tillander@dot.state.fl.us.

If you have any questions relating to this specification change, please call me at 414-4140.

Sincerely,

Signature on file

V. Y. "Trey" Tillander, III, P.E.
State Specifications Engineer

TT/dt

Attachment

cc: Florida Transportation Builders' Assoc.
State Construction Engineer

ASPHALT CONCRETE FRICTION COURSES.
(REV 5-814-12)

SUBARTICLE 337-2.5 (of the Supplemental Specifications) is deleted and the following substituted:

337-2.5 Hydrated Lime: Meet the requirements of AASHTO M 303-89 (2010), Type 1. Provide certified test results for each shipment of hydrated lime indicating compliance with the specifications.

SUBARTICLE 337-2.6 (of the Supplemental Specifications) is deleted and the following substituted:

337-2.6 Liquid Anti-strip Additive: Meet the requirements of 916-54 and be listed on the Department's Qualified Products List (QPL).

SUBARTICLE 337-3.2.1 (of the Supplemental Specifications) is deleted and the following substituted:

337-3.2.1 FC-5:

337-3.2.1.1 Aggregates: Use an aggregate blend which consists of either 100% crushed granite, 100% crushed Oolitic limestone or 100% other crushed materials (as approved by the Engineer for friction courses per Rule 14-103.005, Florida Administrative Code).

Crushed limestone from the Oolitic formation may be used if it contains a minimum of 12% silica material as determined by FM 5-510 and the Engineer grants approval of the source prior to its use.

A list of aggregates approved for use in friction course may be available on the Department's website. The URL for obtaining this information, if available, is: www.dot.state.fl.us/statematerialsoffice/quality/programs/qualitycontrol/materialslistings/sources/frictioncourse.pdf <ftp://ftp.dot.state.fl.us/fdot/smo/website/sources/frictioncourse.pdf>.

337-3.2.1.2 Asphalt Binder: Use an ARB-12 asphalt rubber binder. If called for in the Contract Documents, use a PG 76-22 asphalt binder.

337-3.2.1.3 Hydrated Lime: Add the lime at a dosage rate of 1.0% by weight of the total dry aggregate to mixes containing granite.

337-3.2.1.4 Liquid Anti-strip Additive: Use a liquid anti-strip additive at a rate of 0.5% by weight of the asphalt binder for mixtures containing limestone aggregate. Other rates of anti-strip additive may be used upon approval of the Engineer.

337-3.2.1.5 Fiber Stabilizing Additive: Add either mineral fibers at a dosage rate of 0.4% by weight of the total mix, or cellulose fibers at a dosage rate of 0.3% by weight of total mix.

SUBARTICLE 337-3.2.2.1 (of the Supplemental Specifications) is deleted and the following substituted:

337-3.2.2.1: Aggregates: Use an aggregate blend that consists of crushed granite, crushed Oolitic limestone, other crushed materials (as approved by the Engineer for friction courses per Rule 14-103.005, Florida Administrative Code), or a combination of the above. Crushed limestone from the Oolitic formation may be used if it contains a minimum of 12% silica material as determined by FM 5-510 and the Engineer grants approval of the source prior to its use. As an exception, mixes that contain a minimum of 60% crushed granite may either contain: 1) up to 40% fine aggregate from other sources or 2) a combination of up to 20% RAP and the remaining fine aggregate from other sources.

A list of aggregates approved for use in friction course may be available on the Department's website. The URL for obtaining this information, if available, is: www.dot.state.fl.us/statematerialsoffice/quality/programs/qualitycontrol/materialslistings/sources/frictioncourse.pdf <ftp://ftp.dot.state.fl.us/fdot/smo/website/sources/frictioncourse.pdf>.

SUBARTICLE 337-6.2.1 (of the Supplemental Specifications) is deleted and the following substituted:

337-6.2.1 Individual Test Tolerances for FC-5 Production: Terminate the LOT if any of the following Quality Control (QC) failures occur:

- 1) An individual test result of a subplot for asphalt binder content does not meet the requirements of Table 337-2,
- 2) Two consecutive test results *within the same LOT* for gradation on any of the following sieve sizes (P_{-3/8}, P₋₄, and P₋₈) do not meet the requirements of Table 337-2; *The two consecutive failures must be on the same sieve.*

When a LOT is terminated due to a QC failure, stop production of the mixture until the problem is resolved to the satisfaction of the ~~Quality Control~~ Manager(s) and/or Asphalt Plant Level II technician(s) responsible for the decision to resume production after a quality control failure, as identified in 105-8.6.4. In the event that it can be demonstrated that the problem can immediately be or already has been resolved, it will not be necessary to stop production. When a LOT is terminated, make all necessary changes to correct the problem. Do not resume production until appropriate corrections have been made. Inform the Engineer of the problem and corrections made to correct the problem. After resuming production, sample and test the material to verify that the changes have corrected the problem. Summarize this information and provide it to the Engineer prior to the end of the work shift when production resumes.

In the event that a ~~Quality Control~~ failure is not addressed as defined above, the Engineer's approval will be required prior to resuming production after any future ~~Quality Control~~ failures.

Address any material represented by a failing test result in accordance with 334-5.9.5. Any LOT terminated under this Subarticle will be limited to a maximum Pay Factor of 1.00 (as defined in 337-12.3) for each quality characteristic.

SUBARTICLE 337-7.5.1 (of the Supplemental Specifications) is deleted and the following substituted:

337-7.5.1 Air Temperature at Laydown: ~~Spread the mixture only when the air temperature (the temperature in the shade away from artificial heat) is at or above 45°F. Meet the requirements of Table 330-1. The minimum ambient temperature may be reduced by 5°F when using warm mix technology, if agreed to by both the Engineer and the Contractor.~~

SUBARTICLE 337-9.3.2 (of the Supplemental Specifications) is deleted and the following substituted:

337-9.3.2 Blending ~~Quality-Control~~ Records: Maintain adequate ~~Quality Control~~ records for the Engineer's review for all pretreatment activities. Include as a minimum the following information (for each batch or day's run of pretreatment): pretreatment date, aggregate certification information, certified test results for the hydrated lime, aggregate moisture content prior to blending, as-blended quantities of aggregate and hydrated lime, project number, customer name, and shipping date.

ASPHALT CONCRETE FRICTION COURSES.
(REV 5-14-12)

SUBARTICLE 337-2.5 (of the Supplemental Specifications) is deleted and the following substituted:

337-2.5 Hydrated Lime: Meet the requirements of AASHTO M 303-89 (2010), Type 1. Provide certified test results for each shipment of hydrated lime indicating compliance with the specifications.

SUBARTICLE 337-2.6 (of the Supplemental Specifications) is deleted and the following substituted:

337-2.6 Liquid Anti-strip Additive: Meet the requirements of 916-4 and be listed on the Department's Qualified Products List (QPL).

SUBARTICLE 337-3.2.1 (of the Supplemental Specifications) is deleted and the following substituted:

337-3.2.1 FC-5:

337-3.2.1.1 Aggregates: Use an aggregate blend which consists of either 100% crushed granite, 100% crushed Oolitic limestone or 100% other crushed materials (as approved by the Engineer for friction courses per Rule 14-103.005, Florida Administrative Code).

Crushed limestone from the Oolitic formation may be used if it contains a minimum of 12% silica material as determined by FM 5-510 and the Engineer grants approval of the source prior to its use.

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337-3.2.1.2 Asphalt Binder: Use an ARB-12 asphalt rubber binder. If called for in the Contract Documents, use a PG 76-22 asphalt binder.

337-3.2.1.3 Hydrated Lime: Add the lime at a dosage rate of 1.0% by weight of the total dry aggregate to mixes containing granite.

337-3.2.1.4 Liquid Anti-strip Additive: Use a liquid anti-strip additive at a rate of 0.5% by weight of the asphalt binder for mixtures containing limestone aggregate. Other rates of anti-strip additive may be used upon approval of the Engineer.

337-3.2.1.5 Fiber Stabilizing Additive: Add either mineral fibers at a dosage rate of 0.4% by weight of the total mix, or cellulose fibers at a dosage rate of 0.3% by weight of total mix.

SUBARTICLE 337-3.2.2.1 (of the Supplemental Specifications) is deleted and the following substituted:

337-3.2.2.1: Aggregates: Use an aggregate blend that consists of crushed granite, crushed Oolitic limestone, other crushed materials (as approved by the Engineer for friction courses per Rule 14-103.005, Florida Administrative Code), or a combination of the above. Crushed limestone from the Oolitic formation may be used if it contains a minimum of 12% silica material as determined by FM 5-510 and the Engineer grants approval of the source prior to its use. As an exception, mixes that contain a minimum of 60% crushed granite may either contain: 1) up to 40% fine aggregate from other sources or 2) a combination of up to 20% RAP and the remaining fine aggregate from other sources.

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- 2) Two consecutive test results within the same LOT for gradation on any of the following sieve sizes (P_{3/8}, P₄, and P₈) do not meet the requirements of Table 337-2. The two consecutive failures must be on the same sieve.

When a LOT is terminated due to a QC failure, stop production of the mixture until the problem is resolved to the satisfaction of the QCI Manager(s) and/or Asphalt Plant Level II technician(s) responsible for the decision to resume production after a quality control failure, as identified in 105-8.6.4. In the event that it can be demonstrated that the problem can immediately be or already has been resolved, it will not be necessary to stop production. When a LOT is terminated, make all necessary changes to correct the problem. Do not resume production until appropriate corrections have been made. Inform the Engineer of the problem and corrections made to correct the problem. After resuming production, sample and test the material to verify that the changes have corrected the problem. Summarize this information and provide it to the Engineer prior to the end of the work shift when production resumes.

In the event that a QC failure is not addressed as defined above, the Engineer's approval will be required prior to resuming production after any future QC failures.

Address any material represented by a failing test result in accordance with 334-5.9.5. Any LOT terminated under this Subarticle will be limited to a maximum Pay Factor of 1.00 (as defined in 337-12.3) for each quality characteristic.

SUBARTICLE 337-7.5.1 (of the Supplemental Specifications) is deleted and the following substituted:

337-7.5.1 Air Temperature at Laydown: Meet the requirements of Table 330-1.

SUBARTICLE 337-9.3.2 (of the Supplemental Specifications) is deleted and the following substituted:

337-9.3.2 Blending QC Records: Maintain adequate QCI records for the Engineer's review for all pretreatment activities. Include as a minimum the following information (for each batch or day's run of pretreatment): pretreatment date, aggregate certification information, certified test results for the hydrated lime, aggregate moisture content prior to blending, as-blended quantities of aggregate and hydrated lime, project number, customer name, and shipping date.