Florida Department of Transportation

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KEVIN J. THIBAULT, P.E.
SECRETARY

December 27, 2021

Khoa Nguyen
Director, Office of Technical Services
Federal Highway Administration
3500 Financial Plaza, Suite 400
Tallahassee, Florida 32312

Re: State Specifications Office
Section: **337**
Proposed Specification: **3370201 Asphalt Concrete Friction Courses.**

Dear Mr. Nguyen:

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

The changes are proposed by Wayne Rilko to update tables, add the warm mix hyperlink, and add language regarding production cessation in the Standard Specification.

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

If you have any questions relating to this specification change, please call me at 850-414-4130.

Sincerely,

Signature on file

Daniel Strickland, P.E.
State Specifications Engineer

DS/dh
Attachment
cc: Florida Transportation Builders' Assoc.
State Construction Engineer

ASPHALT CONCRETE FRICTION COURSES.
(REV 10-12-21)

ARTICLE 337-2 is deleted and the following substituted:

337-2 Materials.

337-2.1 General Requirements: Meet the requirements specified in Division III as modified herein. The Engineer will base continuing approval of material sources on field performance. Warm mix technologies (additives, foaming techniques, etc.) listed on the Department's website may be used in the production of the mix. The URL for obtaining this information is: ~~https://www.fdot.gov/materials/mac/default.shtm.~~ https://www.fdot.gov/materials/laboratory/asphalt/index.shtm.

337-2.2 Asphalt Binder: Meet the requirements of Section 916, and any additional requirements or modifications specified herein for the various mixtures.

337-2.3 Coarse Aggregate: Meet the requirements of Section 901, and any additional requirements or modifications specified herein for the various mixtures.

337-2.4 Fine Aggregate: Meet the requirements of Section 902, and any additional requirements or modifications specified herein for the various mixtures.

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

337-2.6 Liquid Anti-Strip Additive: Meet the requirements of 916-4 and be listed on the Department's Approved Product List (APL).

337-2.7 Fiber Stabilizing Additive (Required for FC-5 only): Use either a mineral or cellulose fiber stabilizing additive. Meet the following requirements:

337-2.7.1 Mineral Fibers: Use mineral fibers (made from virgin basalt, diabase, or slag) treated with a cationic sizing agent to enhance the disbursement of the fiber, as well as to increase adhesion of the fiber surface to the bitumen. Meet the following requirements for physical properties:

1. Size Analysis
   Average fiber length: 0.25 inch (maximum)
   Average fiber thickness: 0.0002 inch (maximum)
2. Shot Content (ASTM C612~~-10~~)
   Percent passing No. 60 Sieve: 90 - 100
   Percent passing No. 230 Sieve: 65 - 100

Provide certified test results for each batch of fiber material indicating compliance with the above tests.

337-2.7.2 Cellulose Fibers: Use cellulose fibers meeting the following requirements:

1. Fiber length: 0.25 inch (maximum)
2. Sieve Analysis
   a. Alpine Sieve Method
      Percent passing No. 100 sieve: 60-80
   b. Ro-Tap Sieve Method
      Percent passing No. 20 sieve: 80-95
      Percent passing No. 40 sieve: 45-85

Percent passing No. 100 sieve: 5-40

3. Ash Content: 18% non-volatiles (plus or minus 5%)

4. pH: 7.5 (plus or minus 1.0)

5. Oil Absorption: 5.0% (plus or minus 1.0) (times fiber weight)

6. Moisture Content: 5.0% by weight (maximum)

Provide certified test results for each batch of fiber material indicating compliance with the above tests.

SUBARTICLE 337-4.1 is deleted and the following substituted:

337-4 Mix Design.

337-4.1 FC-5: The Department will design the FC-5 mixtures. Furnish the materials and all appropriate information (source, gradation, etc.) as specified in 334-3.2.7. The Department will have three weeks to design the mix.

The Department will establish the design binder content for FC-5 within the following ranges based on aggregate type:

Table 337-2 FC-5 Percent Binder Content	
Aggregate Type	Percent Binder Content
Crushed Granite and/or Granitic Gneiss	5.5 - 7.5
Crushed Limestone and/or Shell Rock	6.0 - 8.0

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 ($P_{-3/8}$, P_{-4}, and P_{-8}), and asphalt binder content (P_b) only.

2. Testing in accordance with AASHTO T 312~~-19~~ 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 are modified to include ($P_{-3/8}$, P_{-4}, and P_{-8}) with a maximum difference per FM 1-T 030 (Figure 2).

5. Table 334-6 (Master Production Range) is replaced by Table 337-~~2~~3.

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~~3 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

Table 337-~~2~~3 FC-5 Master Production Range	
Characteristic	Tolerance (1)
Passing No. 8 Sieve (%)	Target ± 3.50
(1) Tolerances for sample size of n = 1 from the verified mix design	

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 sublot for asphalt binder content does not meet the requirements of Table 337-~~2~~3,

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~~3. 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 QC Managers and/or Asphalt Plant Level II Technicians responsible for the decision to resume production after a QC failure, as identified in Section 105. 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 337-9.1 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 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~~an alarm will be activated if introduction of the fiber fails. Stop production of the asphalt mixture and resume production once the fiber supply system is operating correctly.

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 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. 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. 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, interlocked with plant controls so that ~~the mixture production will be interrupted~~ an alarm will be activated if introduction of the hydrated lime fails. Stop production of the asphalt mixture and resume production once the hydrated lime supply system is operating correctly. The addition of the hydrated lime to the aggregate may be accomplished by Method A or B as follows:

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 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. Add the hydrated lime in such a manner that it will not become entrained in the exhaust system of the drier or plant.

337-9.2.2 Method B - Hydrated Lime/Water Slurry: Add the required quantity of hydrated lime (based on dry weight) in a hydrated lime/water slurry form to the aggregate. Provide a solution consisting of hydrated lime and water in concentrations as directed by the Engineer. Use a plant equipped to blend and maintain the hydrated lime in suspension and to mix it with the aggregates uniformly in the proportions specified.

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~~3 in lieu of Table 334-6.

SUBARTICLE 337-12.3 is deleted and the following substituted:

337-12 Basis of Payment.

337-12.1 General: Price and payment will be full compensation for all the work specified under this Section (including the applicable requirements of Sections 320 and 330).

Based upon the quality of the material, a pay adjustment will be applied to the bid price of the material as determined on a LOT by LOT basis. The pay adjustment will be assessed by calculating a Pay Factor for individual quality characteristics. The pay adjustment will be computed by multiplying a Composite Pay Factor for the LOT by the bid price per ton.

337-12.2 FC-9.5 and FC-12.5: Meet the requirements of 334-8.

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~~4 replaces Table 334-8.
3. Table 337-~~4~~5 replaces Table 334-9.
4. The Composite Pay Factor equation in 334-8.3 is replaced with the following:

CPF = [(0.20 x PF 3/8 inch) + (0.30 x PF No. 4) + (0.10 x PF No. 8) + (0.40 x PF AC)]

Table 337-~~3~~4
Small Quantity Pay Table for FC-5

Pay Factor	1-Test Deviation	2-Test Average Deviation
Asphalt Binder Content (%)		
1.05	0.00-0.25	0.00-0.18
1.00	~~0.00~~0.26-0.50	~~0.00~~0.19-0.35
0.90	0.51-0.60	0.36-0.42
0.80	>0.60	>0.42
3/8 inch Sieve (%)		
1.05	0.00-3.25	0.00-2.30
1.00	~~0.00~~3.26-6.50	~~0.00~~2.31-4.60
0.90	6.51-7.50	4.61-5.30
0.80	>7.50	>5.30
No. 4 Sieve (%)		
1.05	0.00-2.50	0.00-1.77
1.00	~~0.00~~2.51-5.00	~~0.00~~1.78-3.54
0.90	5.01-6.00	3.55-4.24
0.80	>6.00	>4.24
No. 8 Sieve (%)		
1.05	0.00-1.50	0.00-1.06
1.00	~~0.00~~1.51-3.00	~~0.00~~1.07-2.12
0.90	3.01-3.50	2.13-2.47
0.80	>3.50	>2.47

Table 337-45 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

ASPHALT CONCRETE FRICTION COURSES.
(REV 10-12-21)

ARTICLE 337-2 is deleted and the following substituted:

337-2 Materials.

337-2.1 General Requirements: Meet the requirements specified in Division III as modified herein. The Engineer will base continuing approval of material sources on field performance. Warm mix technologies (additives, foaming techniques, etc.) listed on the Department's website may be used in the production of the mix. The URL for obtaining this information is: https://www.fdot.gov/materials/laboratory/asphalt/index.shtm.

337-2.2 Asphalt Binder: Meet the requirements of Section 916, and any additional requirements or modifications specified herein for the various mixtures.

337-2.3 Coarse Aggregate: Meet the requirements of Section 901, and any additional requirements or modifications specified herein for the various mixtures.

337-2.4 Fine Aggregate: Meet the requirements of Section 902, and any additional requirements or modifications specified herein for the various mixtures.

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

337-2.6 Liquid Anti-Strip Additive: Meet the requirements of 916-4 and be listed on the Department's Approved Product List (APL).

337-2.7 Fiber Stabilizing Additive (Required for FC-5 only): Use either a mineral or cellulose fiber stabilizing additive. Meet the following requirements:

337-2.7.1 Mineral Fibers: Use mineral fibers (made from virgin basalt, diabase, or slag) treated with a cationic sizing agent to enhance the disbursement of the fiber, as well as to increase adhesion of the fiber surface to the bitumen. Meet the following requirements for physical properties:

1. Size Analysis
   - Average fiber length: 0.25 inch (maximum)
   - Average fiber thickness: 0.0002 inch (maximum)
2. Shot Content (ASTM C612)
   - Percent passing No. 60 Sieve: 90 - 100
   - Percent passing No. 230 Sieve: 65 - 100

Provide certified test results for each batch of fiber material indicating compliance with the above tests.

337-2.7.2 Cellulose Fibers: Use cellulose fibers meeting the following requirements:

1. Fiber length: 0.25 inch (maximum)
2. Sieve Analysis
   - a. Alpine Sieve Method
     - Percent passing No. 100 sieve: 60-80
   - b. Ro-Tap Sieve Method
     - Percent passing No. 20 sieve: 80-95
     - Percent passing No. 40 sieve: 45-85
     - Percent passing No. 100 sieve: 5-40
3. Ash Content: 18% non-volatiles (plus or minus 5%)

4. pH: 7.5 (plus or minus 1.0)
5. Oil Absorption: 5.0% (plus or minus 1.0) (times fiber weight)
6. Moisture Content: 5.0% by weight (maximum)

Provide certified test results for each batch of fiber material indicating compliance with the above tests.

SUBARTICLE 337-4.1 is deleted and the following substituted:

337-4 Mix Design.

337-4.1 FC-5: The Department will design the FC-5 mixtures. Furnish the materials and all appropriate information (source, gradation, etc.) as specified in 334-3.2.7. The Department will have three weeks to design the mix.

The Department will establish the design binder content for FC-5 within the following ranges based on aggregate type:

Table 337-2 FC-5 Percent Binder Content	
Aggregate Type	Percent Binder Content
Crushed Granite and/or Granitic Gneiss	5.5 - 7.5
Crushed Limestone and/or Shell Rock	6.0 - 8.0

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 ($P_{-3/8}$, P_{-4}, and P_{-8}), and asphalt binder content (P_b) only.
2. Testing in accordance with AASHTO T 312 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 are modified to include ($P_{-3/8}$, P_{-4}, and P_{-8}) with a maximum difference per FM 1-T 030 (Figure 2).
5. Table 334-6 (Master Production Range) is replaced by Table 337-3.
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 337-3 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	

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 sublot for asphalt binder content does not meet the requirements of Table 337-3,

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 337-3. 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 QC Managers and/or Asphalt Plant Level II Technicians responsible for the decision to resume production after a QC failure, as identified in Section 105. 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 337-9.1 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 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 an alarm will be activated if introduction of the fiber fails. Stop production of the asphalt mixture and resume production once the fiber supply system is operating correctly.

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 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. 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. 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 flow indicators or sensing devices for the hydrated lime system, interlocked with plant controls so that an alarm will be activated if introduction of the hydrated lime fails. Stop production of the asphalt mixture and resume production once the hydrated lime supply system is operating correctly. The addition of the hydrated lime to the aggregate may be accomplished by Method A or B as follows:

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 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. Add the hydrated lime in such a manner that it will not become entrained in the exhaust system of the drier or plant.

337-9.2.2 Method B - Hydrated Lime/Water Slurry: Add the required quantity of hydrated lime (based on dry weight) in a hydrated lime/water slurry form to the aggregate. Provide a solution consisting of hydrated lime and water in concentrations as directed by the Engineer. Use a plant equipped to blend and maintain the hydrated lime in suspension and to mix it with the aggregates uniformly in the proportions specified.

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 337-3 in lieu of Table 334-6.

SUBARTICLE 337-12.3 is deleted and the following substituted:

337-12 Basis of Payment.

337-12.1 General: Price and payment will be full compensation for all the work specified under this Section (including the applicable requirements of Sections 320 and 330).

Based upon the quality of the material, a pay adjustment will be applied to the bid price of the material as determined on a LOT by LOT basis. The pay adjustment will be assessed by calculating a Pay Factor for individual quality characteristics. The pay adjustment will be

computed by multiplying a Composite Pay Factor for the LOT by the bid price per ton.

337-12.2 FC-9.5 and FC-12.5: Meet the requirements of 334-8.

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 337-4 replaces Table 334-8.
3. Table 337-5 replaces Table 334-9.
4. The Composite Pay Factor equation in 334-8.3 is replaced with the following:

CPF = [(0.20 x PF 3/8 inch) + (0.30 x PF No. 4) + (0.10 x PF No. 8) + (0.40 x PF AC)]

Table 337-4
Small Quantity Pay Table for FC-5

Pay Factor	1-Test Deviation	2-Test Average Deviation
Asphalt Binder Content (%)		
1.05	0.00-0.25	0.00-0.18
1.00	0.26-0.50	0.19-0.35
0.90	0.51-0.60	0.36-0.42
0.80	>0.60	>0.42
3/8 inch Sieve (%)		
1.05	0.00-3.25	0.00-2.30
1.00	3.26-6.50	2.31-4.60
0.90	6.51-7.50	4.61-5.30
0.80	>7.50	>5.30
No. 4 Sieve (%)		
1.05	0.00-2.50	0.00-1.77
1.00	2.51-5.00	1.78-3.54
0.90	5.01-6.00	3.55-4.24
0.80	>6.00	>4.24
No. 8 Sieve (%)		
1.05	0.00-1.50	0.00-1.06
1.00	1.51-3.00	1.07-2.12
0.90	3.01-3.50	2.13-2.47
0.80	>3.50	>2.47

Table 337-5
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