

# Origination Form

## Specifications

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<b>Date:</b>	2026-04-02T15:57:08Z	<b>Associated Specs:</b>	SP3340203

### Summary:

1. Removed the reference to the year for AASHTO T 340. 2. Added the binder sampling frequency to the specification instead of only in the Sampling, Testing, and Reporting Guide. 3. Removed the payment penalties for high levels of roadway compaction (density). Please note that this change will also impact DEV334FRA.

### Justification:

The changes will improve the quality of the asphalt mix without adding cost.

### Do the changes affect other types of specifications?

Special Provisions

### List Specifications Affected:

Special Provision SP3340203 for coring data will need to be removed. Also, DEV334FRA will be affected.

Other Affected Documents/Offices	Contacted	Yes/No
Other Standard Plans		No
Florida Design Manual		No
Structures Manual		No
Basis of Estimates Manual		No
Approved Product List		No
Construction Office		No
Maintenance Office		No
Materials Manual		No
Traffic Engineering Manual		No

**Are changes in line with promoting and making progress on improving safety, enhancing mobility, inspiring innovation, and fostering talent; explain how?**

Yes, the changes to Section 334 are in line with improving the quality of asphalt without adding cost.

**What financial impact does the change have; project costs, pay item structure, or consultant fees?**

No financial impact.

**What impact does the change have on production or construction schedules?**

There are no impacts on production or construction schedules.

**How does this change improve efficiency or quality?**

Added the sampling frequency for asphalt binders and extraction samples, and removed the penalty for achieving high density for acceptance testing. These changes will result in quality improvements for the asphalt mixture.

**Which FDOT offices does the change impact?**

Materials and Construction.

**What is the impact to districts with this change?**

There are no impacts to the Districts.

**Does the change shift risk and to who?**

The Department may get a better quality asphalt pavement, which reduces risk for both the Department and the Contractor.

**Provide summary and resolution of any outstanding comments from the districts or industry.**

Comments and Responses are available on the Track the Status of Revisions hyperlink located on the Specifications landing page: <https://www.fdot.gov/programmanagement/Specs.shtm>

**What is the communication plan?**

Through the established specification revision process (e.g., Internal and Industry Review)

**What is the schedule for implementation?**

The Standard Specifications eBook and Workbook are effective July 1st every year.

## SUPERPAVE ASPHALT CONCRETE (REV 4-2-26)

SUBARTICLE 334-2.3.4 is deleted and the following substituted:

**334-2.3.4 Pavement Coring Report:** When the Contract includes removal and/or milling of the existing asphalt pavement, the Pavement Coring Report may be available on the Department's website. The URL for obtaining this information, if available, is:  
<https://macreporting.fdot.gov/ReportsMainView>.

SUBARTICLE 334-3.2.3.2 is deleted and the following substituted:

**334-3.2.3.2 Fine Aggregate Angularity:** When tested in accordance with AASHTO T 304, Method A, meet the uncompacted void content of fine aggregate specified in AASHTO M 323. For Traffic Level C and E base and structural course mixtures, a fine aggregate angularity value less than 45.0 and greater than or equal to 42.0 is allowable provided testing parameters of AASHTO T 340-~~10 (2019)~~ meet the following requirements:

1. Rutting tests are performed on two gyratory specimens compacted to  $N_{\text{design}}$  level of gyrations with a height of  $115 \pm 5$  mm and a diameter of 150 mm.
2. The air void ( $V_a$ ) content of each gyratory specimen after compacting to  $N_{\text{design}}$  shall be within the following range:  $3.0 \leq V_a \leq 4.8$ .
3. Rutting tests are performed at 64.0 C.
4. The average rut depth for two specimens shall not exceed 4.5 mm.

SUBARTICLE 334-5.7.1.1 is deleted and the following substituted:

**334-5.7.1.1 Asphalt Binder and Mixture Sampling for Determination of Asphalt Binder Quality:** ~~At the Department's request~~ As directed by the Engineer, obtain an asphalt binder sample, in accordance with AASHTO R 66, from the asphalt plant storage tank and a corresponding asphalt mixture sample using binder from the same storage tank. Samples of asphalt binder and mixture shall be sampled the same day. Sample High Polymer and PG 76-22 binders and mixtures at a minimum frequency of three samples per grade, per project, for each year of the Contract. Sample PG 67-22, PG 58-22, and PG 52-28 binders and mixtures at a minimum frequency of one sample per grade, per project, for each year of the Contract. The asphalt binder from the storage tank and the asphalt binder recovered from the asphalt mixture will be tested by the Department for compliance with Contract Documents. Should the test results of the asphalt binder from the storage tank and/or the asphalt binder recovered from the asphalt mixture not meet the requirements of the Contract Documents, address any material represented by the failing test results in accordance with 334-5.9.5.

SUBARTICLE 334-8.2.2 is deleted and the following substituted:

**334-8.2.2 Two or Less Sublot Test Results:** In the event that two or less sublot test results are available for a LOT, Pay Factors will be determined based on Table 334-8, using the average of the accumulated deviations from the target value. (Except for density, deviations are absolute values with no plus or minus signs.) Use the 1-Test column when there is only one sublot test result and use the 2-Tests column when there are two sublots.

Table 334-8  
Small Quantity Pay Table

Pay Factor	1 Sublot Test Deviation	2 Sublot Test Average Deviation
Asphalt Binder Content		
1.05	0.00-0.23	0.00-0.16
1.00	0.24-0.45	0.17-0.32
0.90	0.46-0.55	0.33-0.39
0.80	>0.55	>0.39
No. 8 Sieve		
1.05	0.00-2.25	0.00-1.59
1.00	2.26-4.50	1.60-3.18
0.90	4.51-5.50	3.19-3.89
0.80	>5.50	>3.89
No. 200 Sieve		
1.05	0.00-0.55	0.00-0.39
1.00	0.56-1.10	0.40-0.78
0.90	1.11-1.50	0.79-1.06
0.80	>1.50	>1.06
Air Voids		
1.05	0.00-0.50	0.00-0.35
1.00	0.51-1.00	0.36-0.71
0.90	1.01-1.70	0.72-1.20
0.80	1.71-2.00	1.21-1.41
0.70	2.01-2.50	1.42-1.77
0.55	>2.50	>1.77
Density <sup>(1)</sup> Target = <del>93.00</del> 94.00 percent of G <sub>mm</sub>		
1.05	+ (0.00- <del>3.50</del> 6.00), - (0.00- <del>0.50</del> 1.50)	+ (0.00- <del>3.25</del> 6.00), - (0.00- <del>0.35</del> 1.35)
1.00	+ ( <del>3.51</del> 4.50), - ( <del>0.51</del> 1.00 <del>1.51</del> - 2.00)	+ ( <del>3.26</del> 4.25), - ( <del>0.36</del> 0.71 <del>1.36</del> -1.71)
0.95	+ ( <del>4.51</del> 5.00), - ( <del>1.01</del> 2.00 <del>2.01</del> - 3.00)	+ ( <del>4.26</del> 4.75), - ( <del>0.72</del> 1.41 <del>1.72</del> -2.41)
0.90	+ ( <del>5.01</del> 5.50), - ( <del>2.01</del> 3.00 <del>3.01</del> - 4.00)	+ ( <del>4.76</del> 5.25) - ( <del>1.42</del> 2.12 <del>2.42</del> -3.12)
0.80	+ ( <del>&gt;5.50</del> ), - ( <del>&gt;3.00</del> 4.00)	+ ( <del>&gt;5.25</del> ), - ( <del>&gt;2.12</del> 3.12)
Density <sup>(1)</sup> Target = <del>92.00</del> 93.00 percent of G <sub>mm</sub>		
1.05	+ (0.00- <del>4.50</del> 7.00), - (0.00- <del>0.50</del> 1.50)	+ (0.00- <del>4.25</del> 7.00), - (0.00- <del>0.35</del> 1.35)
1.00	+ ( <del>4.51</del> 5.50), - ( <del>0.51</del> 1.00 <del>1.51</del> - 2.00)	+ ( <del>4.26</del> 5.25), - ( <del>0.36</del> 0.71 <del>1.36</del> -1.71)
0.95	+ ( <del>5.51</del> 6.00), - ( <del>1.01</del> 1.50 <del>2.01</del> - 2.50)	+ ( <del>5.26</del> 5.75), - ( <del>0.72</del> 1.41 <del>1.72</del> -2.41)
0.90	+ ( <del>6.01</del> 6.50), - ( <del>1.51</del> 2.00 <del>2.51</del> - 3.00)	+ ( <del>5.76</del> 6.25) - ( <del>1.42</del> 2.12 <del>2.42</del> -3.12)
0.80	+ ( <del>&gt;6.50</del> ), - ( <del>&gt;2.00</del> 3.00)	+ ( <del>&gt;6.25</del> ), - ( <del>&gt;2.12</del> 3.12)

(1). Each density test result is the average of three to five randomly located cores. The target density is ~~93.00~~94.00 percent of  $G_{mm}$  (~~92.00~~93.00 percent when compaction is limited to the static mode or for layers specified to be one inch thick). When compaction is limited to the static mode, no vibratory mode in the vertical direction will be allowed. Other vibratory modes will be allowed, if approved by the Engineer. In this case, the target density is ~~92.00~~93.00 percent of  $G_{mm}$ .

SUBARTICLE 334-8.2.3 is deleted and the following substituted:

**334-8.2.3 Three or More Sublot Test Results:** When three or more sublot test results are available for a LOT, the variability-unknown, standard deviation method will be used to determine the estimated percentage of the LOT that is within the specification limits. The number of significant figures used in the calculations will be in accordance with requirements of AASHTO R 11/ASTM E29, Absolute Method.

**334-8.2.3.1 Percent Within Limits:** The percent within limits (PWL) and Pay Factors for the LOT will be calculated as described below. Variables used in the calculations are as follows:

$x$  = individual test value (sublot)  
 $n$  = number of tests (sublots)  
 $s$  = sample standard deviation  
 $\Sigma(x^2)$  = summation of squares of individual test values  
 $(\Sigma x)^2$  = summation of individual test values squared  
 $Q_U$  = upper quality index  
 $USL$  = upper specification limit (target value plus upper specification limit from Table 334-9)  
 $Q_L$  = lower quality index  
 $LSL$  = lower specification limit (target value minus lower specification limit from Table 334-9)  
 $P_U$  = estimated percentage below the USL  
 $P_L$  = estimated percentage above the LSL

1. Calculate the arithmetic mean ( $\bar{X}$ ) of the test values:

$$\bar{X} = \frac{\sum x}{n}$$

2. Calculate the sample standard deviation (s):

$$s = \sqrt{\frac{n \sum (x^2) - (\sum x)^2}{n(n-1)}}$$

3. Calculate the upper quality index ( $Q_U$ ):

$$Q_U = \frac{USL - \bar{X}}{s}$$

4. Calculate the lower quality index (Q<sub>L</sub>):

$$Q_L = \frac{\bar{X} - LSL}{s}$$

5. From Table 334-10, determine the percentage of work below the USL (P<sub>U</sub>).

6. From Table 334-10, determine percentage of work above the LSL (P<sub>L</sub>) Note: If USL or LSL is not specified; percentages within (USL or LSL) will be 100.

7. If Q<sub>U</sub> or Q<sub>L</sub> is a negative number, then calculate the percent within limits for Q<sub>U</sub> or Q<sub>L</sub> as follows: enter Table 334-10 with the positive value of Q<sub>U</sub> or Q<sub>L</sub> and obtain the corresponding percent within limits for the proper sample size. Subtract this number from 100.00. The resulting number is the value to be used in the next step (Step 8) for the calculation of quality level.

8. Calculate the percent within limits (PWL) = (P<sub>U</sub> + P<sub>L</sub>) – 100

9. Calculate the Pay Factor (PF) for each quality characteristic using the equation given in 334-8.2.3.2.

Table 334-9 Specification Limits	
Quality Characteristic	Specification Limits
Passing No. 8 sieve (percent)	Target ± 3.1
Passing No. 200 sieve (percent)	Target ± 1.0
Asphalt Content (percent)	Target ± 0.40
Air Voids (percent)	4.00 ± 1.20
Density, vibratory mode (percent of G <sub>mm</sub> ):	<del>93.00</del> 94.00 + <del>4.00</del> 6.00, - <del>1.20</del> 2.20
Density, static mode (percent of G <sub>mm</sub> ):	<del>92.00</del> 93.00 + <del>5.00</del> 7.00, - <del>1.50</del> 2.50 <sup>(1)</sup>

(1): No vibratory mode in the vertical direction will be allowed. Other vibratory modes will be allowed, if approved by the Engineer.

Table 334-10 Percent Within Limits		
Quality Index	Percent within Limits for Selected Sample Size	
	n = 3	n = 4
0.00	50.00	50.00
0.05	51.38	51.67
0.10	52.76	53.33
0.15	54.15	55.00
0.20	55.54	56.67
0.25	56.95	58.33
0.30	58.37	60.00

Table 334-10  
Percent Within Limits

Quality Index	Percent within Limits for Selected Sample Size	
	n = 3	n = 4
0.35	59.80	61.67
0.40	61.26	63.33
0.45	62.74	65.00
0.50	64.25	66.67
0.55	65.80	68.33
0.60	67.39	70.00
0.65	69.03	71.67
0.70	70.73	73.33
0.75	72.50	75.00
0.80	74.36	76.67
0.85	76.33	78.33
0.90	78.45	80.00
0.95	80.75	81.67
1.00	83.33	83.33
1.05	86.34	85.00
1.10	90.16	86.67
1.15	97.13	88.33
1.20	100.00	90.00
1.25	100.00	91.67
1.30	100.00	93.33
1.35	100.00	95.00
1.40	100.00	96.67
1.45	100.00	98.33
1.50	100.00	100.00
1.55	100.00	100.00
1.60	100.00	100.00
1.65	100.00	100.00
1.70	100.00	100.00
1.75	100.00	100.00
1.80	100.00	100.00
1.85	100.00	100.00
1.90	100.00	100.00
1.95	100.00	100.00
2.00	100.00	100.00
2.05	100.00	100.00
2.10	100.00	100.00
2.15	100.00	100.00
2.20	100.00	100.00
2.25	100.00	100.00
2.30	100.00	100.00
2.35	100.00	100.00

Table 334-10  
Percent Within Limits

Quality Index	Percent within Limits for Selected Sample Size	
	n = 3	n = 4
2.40	100.00	100.00
2.45	100.00	100.00
2.50	100.00	100.00
2.55	100.00	100.00
2.60	100.00	100.00
2.65	100.00	100.00