

**3340000 – ASPHALT CONCRETE FRICTION COURSE, ACCEPTANCE  
OPTIONS  
COMMENTS FROM INDUSTRY REVIEW**

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**David C. O'Hagan, PE**  
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**Comment**

I believe my staff has already approved this - I must trust them.

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**Steve James**  
352-266-1970

**Comment**

In section 334-5.10.6, second paragraph last two sentences. Do we want to approve the contractors rolling procedure every time they change. We do not do that now. The spec. makes them meet density requirements.

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**Bob Dion**  
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**Comments:**

Please add 'as modified herein' after Section 330 in the second paragraph of 334-1. The fourth paragraph mentions that 330-2 does not apply to Option 2.

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**Howie Moseley**  
District 2 Bituminous Engineer

**Comments:**

334-4: In the second paragraph, the wording "for traffic level C through E mixtures" was added in the first line. This wording needs to be deleted.

334-5.1.2: The word "testing" needs to be added to the end of the last paragraph of this section.

Table 334-5: Need to keep the 2.3 - 6.0% air void limits for fine graded mixtures. Also need to add a minimum density for traffic level D & E fine graded mixtures of 92%.

334-5.4.4: In the fourth paragraph, it needs to be clearly stated that the contractor will notify the engineer that the lot was terminated and the appropriate corrections made before production is resumed. This is currently only implied by the wording order.

334-5.10.1: In the fifth line of this section the word "a" needs to be added b/n as and period to read clearly.

General comment to the philosophy of this spec. Option 1 is for the mix that is being used for interstates and other higher traffic levels. Option 2 is for lower traffic levels in areas that are not as critical. Why is the minimum density for fine graded mixtures higher in option 2 than option 1? Wouldn't we want higher density levels to coincide with higher traffic levels???

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**Jim Warren**  
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#### Comment

The Asphalt Industry would like to commend the FDOT for working closely with our ACAF Specifications Committee on many of the changes made to this specification. Our small group that met with FDOT personnel was very pleased with the excellent working environment that was so conducive to a great discussion on these issues. All in all, we all felt this was a win-win result.

Looking at the actual proposed changes that were sent for industry review, we notice one major departure than what the joint working group agreed to - Inclusion of the Optional Acceptance programs inside the 334/337 specification. It is our opinion that this will cause confusion and miss-interpretation in the field. The joint DOT/Industry working group that reviewed many of the proposed specs recommended keeping the R-squared specification as a separate document. Since this R-squared specification is not yet proven in actual use, it will most likely need to be modified. As a free standing developmental specification it would be easy to edit/adjust/modify as needed to improve it over time. If it is incorporated into the regular specifications 234, 334, and 337 it would require changes to these specifications putting yet more editions of these on the street. It may make sense from a specifications viewpoint to include it, but from an application standpoint in the field it does not and will most likely be the source of more confusion, errors, and potential claims.

In addition, changes such as these have additional impacts on CTQP training courses which would have to be redone to accommodate this new specification. Again, if the course is changed to account for the new spec then the new spec is changed (after the pilots), all we have done is waste money twice (on course modifications) and further confusion to the people working in the field (trainees attending the courses).

ACAF strongly disagrees with incorporating this optional specification into the 334/337 specification. We believe it should remain a free standing developmental specification until it is proven in the field and it can be demonstrated that it will not cloud or cause confusion in the field.

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**Kevin Price**  
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**Comments**

I am concerned with this revision and how the Option 1 and option 2 have been added. I can see how some folks will be confused with bouncing back and forth through the spec. I know in the specification meetings we had discussed creating a “Developmental” spec for this new addition. Considering the volume of projects that will be affected by this change (very small) and the amount of revisions a change like this will go through it may be best served as a stand alone spec that can be added as needed to certain projects. We have three different classifications for this R squared, first is by traffic level, then by options and then by sections of the spec. If FDOT insists that this portion be included in the 334, perhaps it should be a completely separate section that outlines what sections apply and what does not. Maybe after the CPF acceptance portion.

Process control does not need to be delineated between option 1 and 2, since it does not apply for option 2 – Regardless of mix type or placement this is how you handle PC testing.

Another concern is that with the IV section and the comparison of Gmm to Gmm for verification but we are still using air voids as the pass/fail check (334-5.7.1). It may be better served that if QC and IV compare, regardless of air voids, that the sample is considered acceptable. The Acceptance lab (QC), since that is the controlling facility, should be the standard considering the sample is hot when run. The problems most are running into is the reheated samples are comparing Gmm to Gmm and Gmb to Gmb but the air voids can be as much as a percent different which causes a shut down and EAR’s when they are not needed.

334-5.1.2 Should outline somehow that asphalt base is not to be considered in the quantification of the 2000 tons. It states combined mix for the project first.

I hope my comments assist in your efforts, if you have any questions please feel free to contact me.

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**Howard Moseley**  
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**Late Comments:**

334 (rev 11-09-06) spec comments offered by District 2 Bit. Eng -- H. Moseley

334-3.2.6 Why not require a minimum amount of liquid antistripping of 0.5% for all mixes, especially mixtures containing granite. TL C-E that fail T 283 would get a higher dosage or be redesigned. If liquid antistripping has an adverse effect on the performance of the PG 76-22 binder, require hydrated lime for granite mixtures. I think it is risky to allow granite mix designs to be issued with PG 76-22 and that don't contain some form of antistripping agent.

334-4 Need to require process control samples for traffic levels A & B if the contractor chooses option 1.

334-5.1.1 Last paragraph requires a temperature and time tolerance. What if the sample does not meet both requirements? Can the results be used? How do we accept, or can we accept the results? Need to consider placing these requirements in the test method and not the specification.

334-5.1.2 First paragraph, we should require the contractor to perform PC tests not make it optional.

334-5.1.2 Second paragraph, need to require density testing on all 10 foot shoulders on the interstate, regardless of the length.

334-5.7.1 Why is this time limit +/- 10 minutes and the other time limit +/- 5 minutes (334-5.1.1). Need to be consistent.

334-5.7.1 Contractor needs to test samples immediately and not box. There are enough boxes already. Also this part of the spec needs to indicate that if the contractor is not going to test a split of the IV sample, the DOT only needs to get one sample. The spec should also require the contractor to report the test data within one working day.

District 2 [Materials] does not agree with this philosophy of getting two IV samples. IV failure rates and EARs are decreasing with the wider MPR. Do we really need to be getting an IV check sample? The vast majority of IV samples taken in District 2 compare favorably with the contractor splits.

334-5.10.1 Eighth line, add the word acceptance between no and testing so it reads no acceptance testing will be required.

Table 334-7 Add a note that reduces the minimum density in column A to 91% if static compaction only is required.

334-5.10.5 Need to define delineation testing better. Delineation testing means that something is going to be removed and replaced and the contractor is defining the limits of the removal. Contractor needs to have an EAR performed by a licensed PE if they want everything to remain in place.

334-5.10.6 Need to exclude 10 foot interstate shoulders from the exception list. Traffic is sometimes diverted on them and they need density testing.

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**Greg Schiess**  
**FHWA**

### Comments

334-2.2 - ~~with the following exceptions: for Traffic Level D, use a PG 76-22 asphalt binder in the final structural layer; for Traffic Level E, use a PG 76-22 asphalt binder in the top two structural layers.~~ - Where is this required if this is deleted?

334-2.3, 2 - How can we address high viscosity with 76-22?

334-2.3, 7 - Any checks during construction? and if under option 2 will FDOT run this? Viscosity testing frequency and make is qc reg to send to SMO ...how is that system working?

334-3.2.3 - Should this read all mixes? Or does sand equivalent apply to A and B?

334-3.2.5 - Do not agree to the VMA reduction.

334-4 - I still think we need the DBE to retain the ability to require the DBE's approval is the QM Manager demonstrates poor judgment

334-5.4.4 – Need to add controls for fine mixes. Re-word the 2<sup>nd</sup> and 3<sup>rd</sup> paragraphs to match the 1<sup>st</sup> paragraph.

Table 334-5 – Why remove “Air Voids (percent) Fine Graded?????”

334-5.7, paragraph 4 - Would it help to also say if both the IV and contractor's split do not meet 334-5 production cease....regardless of meeting the precision values

334-5.10 - Need to address the whether or not an acceptance technician will be at the plant at all times??? What about a 5 year warranty?

334-5.10.2 - We need to require a comparison of at least three samples taken from the roadway to plant samples to determine the differences if any. Also if roadway samples are going to be used we need to define who and how the sample is taken.

334-5.10.4 - Add air voids or go with a 5 year warranty. I would think you would want the air voids in cases where the other characteristic fail.

Table 334-7 -*Density, percent Gmm (2), Column A*, This needs to be a higher value, if out target was 93 for option 1 this should be at least 92.5 or higher

334-5.10.5 – first sentence should read - *Should the test result(s) for the sample exceed the limit(s) given in Table 334-7, Column A, or fall below the density requirement then the material for that day is considered defective.*

334-5.10.6 - is there a total on lump sum jobs? The Engineer may run independent verification tests, and follow section ??? based on the results?

334-5.10.7 - BY the contractor or FDOT ...also address spread rate.

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