

3530000 CONCRETE PAVEMENT SLAB REPLACEMENT
COMMENTS FROM INTERNAL/INDUSTRY REVIEW

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Comments: (7-17-19)

A lengthy discussion was had at the Concrete Technical Council Meeting (April 3, 2019) regarding the Unit Weight requirement and rejection of loads due to falling out of the range for unit weight. It was my understanding in this meeting that a clarification was going to be made that this was NOT to be used to reject fresh concrete-only that it threw that load out of the curve, and that cylinders would be used for early strength determination, and new curves could be created. The spec revision allows for a broader density range, but still seems to allow for loads to be rejected based on fresh density. Please clarify this.

Response: You are correct - the changes have been incorporated in the spec.
353-5.2 Field Delivered Mix Consistency was deleted and Table 353-1 was moved to 353-5.3 (which will now be 353-5.2).

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Comments: (7-23-19)

353-5.2 Field Delivered Mix Consistency, should state how often the consistency testing is performed.

Response: 353-5.2 is unnecessary because consistency testing is to be done according to Section 346. 353-5.2 has been deleted.

(7-26-19) 353-5 Test Requirements, Table 353-1 Density Tolerance +/- 3.0 lb/ft³. Spoke with Dale from SMO this morning and we discussed the issue of density and came to the conclusion that density should not be used to accept or reject 353 concrete.

Response: This is correct. The specification has been revised to remove the acceptance requirements. 353-5.2 Field Delivered Mix Consistency was deleted and Table 353-1 was moved to 353-5.3 (which will now be 353-5.2).

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Comments: (7-25-19)

353-5.2: Density should not be used as a means to accept or reject concrete pavement. Density is not critical to pavement operations. Density should only be used to verify the maturity curve. This revision takes away the density requirements in 353-5.3. I would propose that only slump be used in 353-5.2 and Density results would be used under 353-5.3 to verify the maturity curve. Also, if the density was out of tolerance for the maturity curve then cylinders would be cast to verify strength.

Response: It is agreed that density should not be used to reject 353 concrete. 353-5.2 Field Delivered Mix Consistency was deleted and Table 353-1 was moved to 353-5.3 (which will now be 353-5.2).

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Comments: (7-26-19)

1. 353-3.1 – 3rd sentence in paragraph 2 may be modified for brevity and clarity (Perform the plastic property tests in accordance with Section 346, except when the mix design contains an accelerator, perform the plastic property tests prior to the addition of the accelerator) to read as :- Perform the plastic property tests in accordance with Section 346, prior to the addition of any accelerator.

Response: It is agreed that density should not be used to reject 353 concrete. 353-5.2 Field Delivered Mix Consistency was deleted and Table 353-1 was moved to 353-5.3 (which will now be 353-5.2).

2. 353-5.1 General: 3rd sentence in paragraph 1 may be modified for brevity and clarity (Perform the plastic property tests after all ingredients have been added to the load, except when the mix design contains an accelerator; perform the plastic property tests prior to the addition of the accelerator.) to read as: Perform the plastic property tests prior to the addition of accelerator; prepare testing cylinders for strength after the addition of accelerators.

Response: It is agreed that revision is necessary for clarity. Since all 353 concrete mixes contain an accelerator, the removal of “when the mix design contains an accelerator” is warranted. Also, it is appropriate in this section to note that concrete strength determination could be done either by testing cylinders or using the maturity method.

The first paragraph in 353-5.1 has been changed to read: “Perform concrete sampling and testing in accordance with Section 346, with the addition of density measurement. Perform the plastic property tests prior to the addition of the accelerator. Concrete strength determination can be done using test cylinders or by using the maturity method. If test cylinders are used, prepare after the addition of accelerator.”

3. 353-5.4 Cylinder Fabrication and Testing: 1st and 2nd sentence in paragraph 1 may be combined and modified for brevity and clarity (Fabricate three test cylinders for strength and maturity curve correlation testing. Fabricate the compressive strength cylinders after all materials, including the accelerator, are added.) to read as :- Fabricate three test cylinders for

strength and maturity curve correlation testing after all materials, including the accelerator, are added.

Response: It is agreed that the revision would be better; however, the first paragraph in 353-5.4 needs to be rewritten because it is not clear that opening to traffic testing can be done either by test cylinders or by using the maturity method.

The first paragraph in 353-5.4 has been rewritten as follows: “If cylinders will be used for opening to traffic strength determination, fabricate three test cylinders for opening to traffic strength and three cylinders for 28-day strength after all materials, including the accelerator, are added. If the maturity method will be used for opening to traffic strength, fabricate three test cylinders for maturity curve correlation testing and three for 28-day strength.”
