

3470201 Portland Cement Concrete – Class NS.
COMMENTS FROM INTERNAL/INDUSTRY REVIEW

Mike Bergin
352-955-6666

michael.bergin@dot.state.fl.us

Comment: (10-8-10) The following are Ghulam Mujtab's review comments related to the proposed 347 specification changes:

1- The first sentence is very lengthy. A few requirements are included in one sentence. It is better to separate the requirements in different sentences.

Response: *Changed to two sentences.*

2- Three compressive strength average test results have been mentioned. It has not been mentioned that the results of how many test cylinders are used to determine the average compressive test result.

Response: *The word "average" has been deleted. ASTM C-39 is referenced which gives the number of cylinders required for a test result.*

3- The compressive strength test results should also be acceptable from the laboratory test data. The proposed change only accepts test data of production concrete.

Response: *Language changed to delete Department projects and commercial work. The data can be from anywhere, it must just ensure the mix meets the minimum requirements and be recent (within last 12 months).*

4- The producer should have a choice of submitting the required proposed mix design information on the department form or any other form. The important thing is the availability of the required information.

Response: *Change made to allow producer form.*

5- There is no need of performing the test within twelve month of submittal of the mix. This requirement should be deleted.

Response: *No change made. The data must be within the last twelve months.*

Ron Holcomb
239-825-3519

rholcomb@cemexusa.com

Comments: (10-21-10) Text: 347-4.1 Concrete Mix Design: Before producing any concrete, submit the proposed mix design to the Engineer on a form provided by the Department, along with three compressive strength average test results tested in accordance with ASTM C 39, demonstrating that the mix will meet the minimum 28-day compressive strength requirement of 2,500 psi. These test results data can be historical data from Department projects or commercial work, both performed within the last twelve months period from the date of the submittal of the design mix design. Use only concrete mix designs having prior approval of the Engineer.

Comment- The requirement to have strength data for every mix request would be a significant, depending on how it is interpreted. If the concrete used for the strength data was required to include every component specific to the source of the new mix design, then it would require 28

days minimum to substitute one certified material for another. In the event a source of certified sand was unavailable, the supplier would have to bring in the new material and test; then wait for strength results to submit. It would seem that a material substitution of a similar material should be allowed without testing, particularly a rock or sand source change to an approved mix design

Response: No change made. The intent is for verification that the mix design will meet the minimum 28 day compressive strength, not for substitution of materials. Additional changes to the proposed language allows for the use of ANY data that demonstrates the proposed mix meets the minimum strength requirement. It does not have to be from producer test data

This follows the precedent established with structural concrete, although the current requirement for structural concrete substitution to include a chloride test should not be applicable to NS. Even the effect of substituting many cementitious or admix sources would have little effect on the performance of a 2500psi NS mix. We believe there should be some latitude for mirroring an existing design for non-structural concrete. We also believe the requirement for strength data should be, at most, specific to a cement source and not all of the components involved, when mirroring an approved mix formula.

Response: No change made. The intent is for verification that the mix design will meet the minimum 28 day compressive strength.

No change made. This does not apply to substitution of materials. Any mix design that has not previously been approved for use as NS concrete would need to have data provided that demonstrates the mix will meet the minimum strength requirements regardless of the components. The Department will accept any data that shows the mix meets the minimum strength requirement.

Katie Bettman
904-360-5391

katie.bettman@dot.state.fl.us

Comments: (10-26-10) Does the Department want the average of three compressive strength test results OR three averages of three cylinders each? I think this needs to be clarified.

Response: Change made based on other comments.

2) How can a new concrete mix design have data from a Department project if it hasn't been approved yet?

Response: Change made to allow for data to come from any source.

3) The last sentence is confusing. It may be because of the placement. This section gives the requirements for concrete mix designs. Since the previous sentence is describing what data can be used for the test results, it seems like this is contradicting what was just stated about using Department or commercial data. This sentence was previously in the 347 Specifications. Originally, the statement was to emphasize that non-structural concrete could not be produced for a DOT project before the mix was approved.

Response: Changes made to sentence before the last sentence should clarify.
