



Florida Department of Transportation

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GOVERNOR

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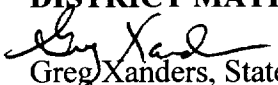
THOMAS F. BARRY, JR.
SECRETARY

August 2, 1999

THIS MEMO IS EXPIRED

MEMORANDUM NO: 24-99

**TO: DISTRICT CONSTRUCTION ENGINEERS
DISTRICT MATERIALS ENGINEERS**

FROM: 
Greg Xanders, State Construction Engineer

COPIES: Charles Goodman, Tom Malerk, Archie Montgomery, Mike Bergin, Ghulam Mujtaba

**SUBJECT: CLASS I NONSTRUCTURAL CONCRETE SPECIFICATION
SECTION 347**

Field reviews and inquiries indicate some confusion exists concerning the requirements of specification section 347. This is a CERTIFICATION ACCEPTANCE specification, which means THE PRODUCER'S QUALITY CONTROL SAMPLES AND TEST RESULTS WILL BE USED TO ACCEPT THE CONCRETE. BUT, JOBSITE INSPECTION OF THE WORK BY THE DEPARTMENT WILL BE REQUIRED AS IN THE PAST.

The Producer will sample and test all Class I Nonstructural concrete. Sampling may be done at the plant. This includes Quality Control slump tests and casting, curing and testing cylinders. When sampling at the plant, FM 1-T 141, which requires the sample be taken from the middle portion of the batch, need not be followed. Sampling at the plant may be done as per FM 5-501.

Production and delivery of Class I Nonstructural concrete as per Spec. Sec. 347 is accepted by Certification Acceptance. Jobsite handling, placing and curing of Class I Nonstructural concrete as per Spec. Sec. 400 is NOT accepted by Certification Acceptance. DEPARTMENT FIELD CONSTRUCTION INSPECTORS WILL PERFORM FULL TIME CONSTRUCTION INSPECTION OF HANDLING, PLACING AND CURING OF ALL CLASS I NONSTRUCTURAL CONCRETE (see CPAM Ch.1, Sec. 7). The Construction Inspector will reject concrete not handled, placed and cured according to project specifications.

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Water may be added at the jobsite by the Contractor. But, the Contractor has the responsibility to certify that the concrete being placed does not exceed the maximum allowed slump or water/cement ratio. The Contractor must calculate the water/cement ratio at the jobsite after all added water has been mixed into the batch. All water must be added before any concrete from the batch has been discharged. WHEN THE CONSTRUCTION INSPECTOR SUSPECTS THAT THE CONCRETE BEING PLACED DOES NOT MEET PROJECT SPECIFICATION REQUIREMENTS, THE INSPECTOR MAY SAMPLE THE CONCRETE AND CHECK THE SLUMP AND WATER/CEMENT RATIO CALCULATION AS NECESSARY TO VERIFY THE CONTRACTOR'S CERTIFICATION. ANY TIME THE INSPECTOR'S SLUMP TEST RESULT OR WATER/CEMENT RATIO CALCULATION SHOWS THAT THE BATCH OF CONCRETE DOES NOT MEET SPECIFICATION SEC. 347 REQUIREMENTS, THE INSPECTOR WILL REJECT THE CONCRETE. Any time the Contractor's test results or water/cement ratio calculations show that the batch of concrete does not meet Specification Sec. 347 requirements, the concrete will be rejected.

Class I Nonstructural concrete test results are not entered into the Department's CQR system, and IA sampling and testing is not required. But, District Materials personnel have the authority to conduct any plant inspections or tests they may deem necessary to assure that the Producer's batch plant and transit mixers are producing and delivering concrete which meets project specification requirements. THE CONSTRUCTION INSPECTOR WILL ADVISE THE DISTRICT CONCRETE ENGINEER WHEN HE SUSPECTS THE CONCRETE BEING BATCHED AND DELIVERED TO THE JOBSITE DOES NOT MEET SPECIFICATION SEC. 347 REQUIREMENTS. The District Materials Engineer may cancel the approval of a mix design when the mix fails to meet project specification requirements at any stage of concrete production or delivery to the jobsite. If the concrete failure is the result of jobsite addition of water or time delay, approval of the Contractor's Level II Quality Control Plan will be rescinded.

Class I Nonstructural concrete need not be batched at a Department approved plant, and transit mixer trucks need not have an approved inspection card. But, THE CONCRETE MIX DESIGN MUST BE APPROVED BY THE DISTRICT MATERIALS ENGINEER. It is the Contractor's responsibility, and the responsibility of his agent, the Producer, to assure that the plant and transit mixers produce concrete which meets project specification requirements.

At least one representative sample of Class I Nonstructural concrete shall be tested by the Producer from each day's production of each design mix from each production facility. This sample may represent concrete delivered to more than one location or more than one project,

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provided the mix has been approved for those project. Concrete from the same truckload may be used at more than one location or on more than one project provided the mix has been approved for those projects and none of the requirements of Specification Sec. 347 are violated. CONCRETE REMAINING IN THE TRANSIT MIXER MORE THAN 120 MINUTES AFTER BATCHING WILL BE REJECTED BY THE DEPARTMENT'S CONSTRUCTION INSPECTOR IF THE CONTRACTOR DOES NOT REJECT THE CONCRETE. THE CONSTRUCTION INSPECTOR WILL ALSO REJECT ALL CONCRETE IN THE MIXER TRUCK WHEN WATER IS ADDED BY THE CONTRACTOR AFTER PART OF THE LOAD HAS BEEN DISCHARGED.

A delivery ticket will accompany each batch of Class I Nonstructural concrete delivered to the jobsite. The Batch Plant Operator's signature must be on the ticket to certify that the batch was produced in accordance with Specification Sec. 347, and that the running average of 28-day strength test results for that mix is 2500 psi. or higher. The Contractor's representative responsible for jobsite water addition and concrete handling and placing must also sign the ticket certifying that the maximum allowed water/cementitious ratio (0.55) and the maximum allowed slump (6") were not exceeded after jobsite water addition, and that the concrete was handled and placed as per project specification requirements (see Spec. Sec. 400). THE DEPARTMENT CONSTRUCTION INSPECTOR WILL REJECT ALL CLASS I NONSTRUCTURAL CONCRETE WHICH DOES NOT HAVE THIS TRUCK DELIVERY TICKET. THE CONSTRUCTION INSPECTOR WILL ALSO REJECT ALL CLASS I NONSTRUCTURAL CONCRETE WHICH HAS INACCURATE OR INADEQUATE TRUCK TICKET INFORMATION. THE INSPECTOR WILL CHECK THE TRUCK TICKETS TO VERIFY THAT THE INGREDIENTS OF THE MIX DELIVERED TO THE JOBSITE COMPLY WITH THE APPROVED MIX DESIGN (INCLUDING THE MINIMUM CEMENTITIOUS CONTENT OF 470 LBS/CY). DISTRICT IA PERSONNEL SHOULD CHECK THE RUNNING AVERAGE OF 28-DAY STRENGTH TEST RESULTS DURING ROUTINE VISITS TO THE PLANT.

Truck tickets which contain all information required in Appendix A of Spec. Sec. 347, and which comply with project specifications, including the signatures described above, will be accepted by the Construction Inspector as adequate documentation for Certification Acceptance of the concrete, provided the concrete is handled, placed and cured as per project specification requirements (see Spec. Sec. 400). Appendix C contains an acceptable sample truck ticket. After review by the Construction Inspector, these truck tickets will become part of the Resident Engineer's job records.

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No C-22 cards or Control of Concrete reports are required. Plastic and hardened concrete QC test results need not be submitted to the Construction Inspector by the Contractor or the Producer; but, these test results and other information required in Specification Sec. 347-4.3 must be kept on file by the Producer at the concrete production facility for review by the Department at all times up to 3 years after the project has been final accepted.

Class I Nonstructural concrete need not comply with any ambient or concrete temperature requirements.

Seven day cylinders are required in Specification Sec 347 to allow the Contractor to obtain an early indication of the probable acceptability of the concrete.

If you have further questions, please contact Ken Blanchard at SC 994-4137.

GX/bc