

**4000700 COMMENTS FROM INDUSTRY REVIEW**

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Andy Clark

COMMENTS:

I believe it is important that our Industry be made aware of problems encountered during construction, the cause/factor(s) thereof and what may have been done by which those incidences could have been avoided. However, unless the occurrence is going beyond "rare", I don't believe we need to "re-invent the wheel". I assume this revision is being prompted by a somewhat recent problem with a bridge deck (ramp?) in the Jacksonville area. Does the Department have any statistics on this issue?

Leave it alone unless it becomes a more evident problem.

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Richard Ayers

COMMENTS:

I have the same questions. What is the big problem? Is there going to be a meteorologist somewhere on the job and hopefully he will have a moisture evaporation rate calculator.

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Keith Waugh

COMMENTS:

I'm wondering where there has been a big problem that now warrants the monitoring, reporting, and additional work that will come from these revisions. Will this change add value? It will definitely add cost. Now, not only will the technician be testing concrete, he'll be an amateur meteorologist. Ultimately, I see it adding another technician on each pour, not to mention the reporting (and monitoring of reporting by the Department). Change for the sake of change is not good.

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Robert V. Robertson, Jr., P.E.

COMMENTS:

Excerpt from 400-16.1 .....Until curing has begun, retain concrete surface moisture at all times by maintaining a surface moisture evaporation rate less than 0.1 lb/ft<sup>2</sup>/hr, particularly for top surfaces of bridge decks, slabs and footings.

If we intend for this requirement to be valid for all pours equally, why add the phrase "particularly for top surfaces.....". This adds ambiguity into the requirement as if this is only critical to top surfaces and may be deleted or forgotten on other surfaces. Delete this portion of the paragraph.

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David C. O'Hagan, PE

COMMENT:

I concur with Robert's comment and have nothing further to add.

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David Sadler

COMMENTS

Bob,

There have been enough instances of cracking in decks to warrant this spec change. While the bridge deck in I-295 that required removal is the most notable, there have been others that have had cracking, albeit less severe. This is not change for changes sake, will not require meteorologists but will add value to the quality of the concrete.

It is interesting that the requirement for weather monitoring has been a contract requirement since prior to 2004. The revision is submitted to clarify the requirement. As for additional costs, there are commercially available, handheld devices that will perform the required temperature, humidity, and wind velocity checks for less than \$200/unit.

Please let me know if you have any questions.

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Bruce Trott

UserEmail: batrott@pcl.com

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Contact\_Requested:  
Date: Wednesday, October 11, 2006  
Time: 06:53:20 AM

**COMMENTS:**

Our response is that we are okay with the 15 mph limit based on historical weather data around the state. However, as far as the evaporation rate, we recommend to remove footings and slabs from the requirements and leave it at the current rate of 0.2. The Department could mandate fogging on all bridge decks as a precaution, however we do not feel that the 0.1 restriction is achievable on very many projects.

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John Previte

**COMMENTS:**

Duane:

Subject section is improved by encompassing weather in general instead of limiting it to temperature, but I think the prescribed measurement interval ("periodically") is too vague and the corrective measures are not stronger than the previous version.

If I am the CEI, I need the interval of moisture loss measurement to be a function of the area of exposed surface and/or evaporation rate and I need an enforceable, more specific mitigation procedure.

When evaporation is higher than 0.1 lb/ft<sup>2</sup>/hr, the correction (only examples are given) and the effectiveness thereof can not be challenged given the suggested text.

If the problem stated in the origination form is to be facilitated I think we at least need a limit evaporation when the operation must be halted or enclosed. (It is more specific about when the operation can not be planned or started)

The revision better **addresses** the problem but I am not convinced the section has been sufficiently **strengthened** for the CEI.

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Jeff Moore

Username: - PCL Civil Constructors  
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Contact\_Requested:

Date: Tuesday, October 10, 2006  
Time: 06:02:22 PM

**COMMENTS:**

400-7.1.3 Remove the reference to slabs or footings. On a widening project or very small footers, this would be impracticle

400-16.1 Change proposed to "Until curing has begun, retain concrete surface moisture at all times by maintaining a surface moisture evaporation rate equal to or less than .2 lb/sf/hr" .1 lb/sf/hr is unreasonable unless it is mandated that fogging or retarder must be used at all times.

400-16.1 Change "Peroidally, at the site" to a definate time period of every 100 cy or every 2 hours. Peroidally is too subjective and open to interpretation.

400-16.1 Change "If the evaporation is. or is likely to become" to "If the evaporation is .2 lb/sf". Is likely to is too subjective.

400-16.1 Add a wind screen should be an acceptable measure to prevent moisture loss

400-17.13 Leave in the days requirements. On smaller project it will be a hardship for the schedule to wait the 10 days as proposed.

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**Donald Barnhousee/D5/FDOT**

**COMMENTS:**

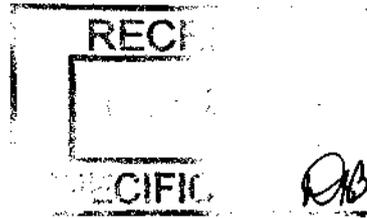
- 1) 400-7.1.1...should it read 45 degrees and falling.
  - 2) Spraying the metal forms with fresh cool water?
  - 3) Maintaining a moisture evaporation rate of less than 0.1 lb/ft2/hr ?
  - 4) Measuring the wind velocity with weather forecasting to not exceed 15mph?
- I truly understand all this but it is very scientific for a contractor?.
- dmb



## AN IRISH PRAYER

*May those that love us, love us  
And those that don't love us  
May God turn their hearts;  
And if he doesn't turn their hearts,  
May he turn their ankles  
So we'll know them by  
their limping.*

29 September 2006



DAN TURNER

Mr. Duane F. Brautigam, P.E., State Specifications Engineer  
Florida Department of Transportation  
605 Suwannee Street - Mail Station 75  
Tallahassee, FL 32399-0450

re: Proposed Specification Change; 4000700, Placing, Curing and Protecting Concrete

Duane:

Hi! It's been a while since we discussed specifications, which says you are doing a great job at same. You have a proposed spec. now that causes me some concerns in my memory banks. I know that us old used-to-be's have rapidly deteriorating memories, and our suggestions are somewhat suspect, as they should be. Because of that reasonable tinge of doubt, I'll try to give you references to support any suggestions I have. I'll give examples where possible.

**400-7.1.3 Wind Velocity Restrictions:** *Do not place ----- the city closest to the project site.*

This spec. simply prohibits any placement of concrete on decks, footings & slabs when the wind is predicted to reach 15 mph at the placement site. If this spec. had been in place in the early 90's, we could not have built the Acosta Bridge, the Blount Island Bridge, or the Buckman Bridge, to cite just a few. I was there during the construction of those structures, and the winds speeds were always high and rarely not present. I would suggest adding some provision for the Contractor to present a method of keeping the concrete from drying out to preclude the fiasco found in the Blanding Blvd. approach bridge last year. Such a proposal should require Departmental approval and have to be in writing. If the Contractor is forced to wait until "the gentle breezes blow", the cost of placing concrete for most bridges is going to go unnecessarily high.

Example: In the script above

Reference: Mr. Dave Sadler (your office), Mr. Brett Pielstick (Eisman & Russo),  
Mr. Ken Hill (Jax. Const.) [Don't ask Plotkin - his memory is suspect]

Mr. Duane F. Brautigam  
29 Sept. 2006  
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***400-17.3 Time of Placing Superstructure: In the case of - - - they have reached the age of 10 days.***

The requirement to wait for a strength gain for *any* arbitrary time period, again adds unnecessary costs to the project because "time is money". A method which has been used by the Dept. in the near past (to determine when concrete may be used) is the development of a "strength gain curve". Of course the curve development had to be mix specific, use specific, project specific, in writing and pre-approved by the Department.

Example: Many jobs built by Leware in district 5 (Andy Clark with Leware will confirm this). In these cases, the curve was developed for form stripping, but it was still just a strength gain concept. These requests were approved by Chas. Goodman.

References: Mr. Andy Clark (Leware Const.), Mr. Tom Malerk (Gainesville Materials office), Mr. Bill Downs (Deland).

I hope all is well with you. Please give my regards to all the good folks in the State Const. Office, and a raspberry to the rest.

Regards,



Dan Turner, P.E.  
Senior Materials Engineer