



THE TEST REPORT

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2005 Annual Business Meeting

By David Chippero

The 2005 ABM will once again be held at Bally's Hotel and Casino in Las Vegas on January 21-22. For those of you who plan to attend the World of Concrete (Jan 17-21) you can extend your stay, as the ABM will be held the following weekend. We look forward to another great event with a cocktail reception planned for Friday night, the ABM Saturday morning, and an awards dinner Saturday night.

We are also very excited to have Joseph Scanlan back as our guest speaker for the ABM. Mr. Scanlan is an Attorney at Law who plans to speak to our group in

greater detail about our industries current problems with the Division of the State Architect's LEA program.

The cost of this years ABM will be \$175.00 per person. If you would like to make hotel accommodations we have reserved a block of rooms at Bally's at a special rate of \$120.00 per night. To sign-up for this year's ABM or for more information please call or e-mail David Chippero at (510) 887-8484 or david_chippero@urscorp.com.

Hard Hat Decals

By Terry Egland

As a means of self-recognition, CCTIA has purchased hard hat decals bearing the association's logo. The association strongly recommends that all employees be recognized as working for a member company. Decals are available free of charge to interested individuals. Please contact Terry Egland at Terry@Testing-Engineers.com or (510) 835-3142

ASTM Work Item Summary

By Terry Egland @ Testing Engineers

WK6777 Standard Practice for Use of Unbonded Caps in Determination of Compressive Strength of Hardened Concrete Cylinders

C1231/C1231M-00e1

Several changes to C1231 are being considered:

1. To permit testing 4 and 3 3/4 in. drilled cores with unbonded caps.
2. To require somewhat tighter tolerances on the planeness of the ends of drilled core than the 0.20 in. currently specified, perhaps 0.15 in.
3. Modify the Table 1 requirements for Neoprene Caps. This would permit using 90 durometer pads for 100 uses on 5000 to 12000 psi concrete and 90 durometer also for 50 uses on 12000 to 15000 psi concrete with a maximum of 50 uses and also requiring Qualification testing.



4. To include pictures of worn pads to better define maximum wear permitted at uses less than the maximum uses permitted in Table 1.
5. Change Figure 1. to show a restraining ring machined from a single piece of metal.

Contact Subcommittee C09.61 for comment.

WK6803 Standard Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation C1077-03a

It was the consensus of the subcommittee to ballot the removal of reference to other agencies (ie. CCRL, NVLAP....) rather than review requests from additional agencies that wish to be included.

Contact Subcommittee C09.98 for comment.

We're on the Web!
<http://www.cctia.org>

LEA Update By Dan Cherrier

On June 18, 2004 CCTIA hosted a meeting with Eric France to discuss recent changes in the LEA program. Mr. France is now entering his second year as the manager of the LEA program. The meeting was held at the Ontario Marriott and included representatives from testing laboratories throughout the state. The following minutes from the meeting have been reviewed and approved by Eric France:

The new location for the Division of the State Architect Headquarters is in the Department of General Services building at 1102 Q Street, Suite 5100 in Sacramento. Mr. France apologized for the recent lack of response from his office. He stated that numerous laboratory field visits have taken place over the last few weeks. In addition, Jeff Enzler is no longer associated with the LEA program, which has resulted in additional workload. Currently, Mr. France does not have any staff.

Information regarding laboratory certification on the DSA website will be moved from the Project Tacking link to a new section devoted entirely to material testing laboratories. Mr. France distributed a sample of the web page showing the expected links and format. The links provide a path to most of the new forms and LEA application materials.

Mr. France passed out new DSA acceptance letters for LEA approval. A new LEA application instruction document was developed January 1, 2004 that simplified the application process. The approval letter has revised wording and the services accepted page has been extensively modified. The new approval letter specifies which items are considered tests and which are inspections. All laboratories are encouraged to read the form, as this is often misinterpreted.

Effective immediately, Form 6 is no longer to be used by special inspectors.

Mr. France passed out example forms for the construction inspection report, the laboratory report for testing results, the laboratory verified report, the special inspection verified report, and the engineered fill verified report. The format is quite different from DSA Form 6 and should be used immediately. DSA will be checking for conformance to these rules beginning in July 2004. The laboratory verified report must be

signed by the Civil Engineer (CE) listed on the LEA application or updated information. Mr. France added that DSA expects the responsible CE to be available in the laboratory to employees and to spend a significant amount of time overseeing laboratory operations. If the PE is not a full time employee of the specific location that has LEA approval, DSA should be notified and will evaluate if the CE can exercise sufficient responsible charge of the laboratory operation. The CE does not need to sign the individual laboratory test results.

The CE shall not sign any type of special inspection verified report unless they were approved by DSA, and personally performed the inspection; the individual special inspector approved by DSA is required to sign the SI verified report. If the employee leaves the firm, efforts have to be made to get his/her signature before he leaves. In addition, technicians/ special inspectors must sign the daily report at the end of each work shift.

Verified reports are due anytime there has been more than one month of field inactivity, if the individual or firm is terminated for any reason, and when the work is complete- (final verified). Should field work resume, the next verified report should indicate the word supplemental. Should the laboratory be terminated from the project for any reason the verified reports are due immediately. Exceptions on verified reports should be in bold. Many laboratories objected to the word "all" in the verified reports.

Private inspectors, mostly in southern California, may not perform sampling for the laboratory. For example, the field inspector may not cast cylinders or masonry mortar or grout samples. A representative from a DSA accepted testing laboratory must perform all required tests, initial curing and handling of samples. This requirement also applies to Inspector of Record.

No updates or changes have occurred during the past year for the Title 24 Special Masonry examination and certification. A revised shotcrete examination will be administered directly by DSA within the next year.

DSA has not been satisfied in some cases with the field / laboratory testing on masonry items. An announcement was distributed for a two-day masonry testing procedures certification course hosted by the National Concrete Masonry Association. Mr. France expects to require this course for all laboratory/field technicians within one year.

Mr. France has noticed that many laboratories are using pad-type caps for grout. This practice is prohibited on DSA projects. In addition, 4x8 cylinder molds for concrete may not be used. Expect a DSA circular within the next year stating that shrinkage testing (in some cases) may no longer be a required test on CMU blocks. Shrinkage has not been an issue; however, the circular will require control joints at closer spacing than currently used. Core drilled samples (for compression and shear) are always required on each 5,000 square feet of CMU wall. All CMU block tests require thickness, absorption, and compression tests.

Some laboratories have provided the distributor of the reinforcing steel with tags and having them place them. This practice is not allowed; a representative from the testing laboratory must provide identification, sampling, and tag the reinforcing steel, not the IOR, special inspector, or employee of the steel distributor. The laboratory representative must watch the heat bundles broken down; this is not to occur before his or her arrival. Any laboratory performing soil inspection and testing must also participate in the AMRL program and have AASHTO approval.

Some firms are performing Nondestructive Testing (NDT) without the Level III being properly certified. Self or company Level III certification is no longer acceptable. The Level III certification must come from The American Society for Nondestructive Testing (ASNT) by ASNT test, and be verifiable on the ASNT website. The facility's NDT written practice must be in accordance with ANSI/ASNT CP-189, 2001.

All welding requires continuous special inspection as a minimum. The constant presence of the special inspector is required for fillet, multi-pass, and groove welds. The inspector must be in the shop at all times that welding is being performed. "Going to the Circle K is not allowed even if coming right back."

CONTINUED ON NEXT PAGE



Furthermore, for all complete penetration or multipass welds the inspector must be near the point of welding. Many shop projects may require numerous inspectors if the work requires multipass welds. DSA will try to give laboratories advance notice when their LEA approval is to be

removed. This does not apply to routine expiration of the LEA. Mr. France plans to work with DSA management this year to require that special inspectors must work for the testing laboratory. He did state that for laboratories with multiple locations, any location may perform inspections as long as; ALL testing is conducted by a

facility/location currently acceptable to DSA. For copies of any of the forms referenced in this article, please contact Dan Cherrier at (925) 484-1700 or e-mail at dcherrier@kleinfelder.com. Additional information is available on

Epoxy Adhered Dowel Inspections – What Could Be Simpler?

By Gregory J. Smith

The inspections of rebar or threaded rod dowels into concrete or masonry substrate is one of the simplest systems to inspect. There are only two parts being used – the epoxy and the dowel. If the hole of the proper depth and diameter is drilled into a solid substrate, the hole and dowel is clean, and the epoxy starts to harden after it completely fills the space between the dowel and the hole, what else is there for the inspector to do?

The ICBO/ICC Evaluation Report

Plenty! For each manufacturer and type of epoxy, there is an ICBO or ICC Evaluation Report that describes the details of inspection, along with engineering values and installation instructions. This report is a companion to the manufacturer's published installation instructions. While the ICBO reports differ slightly depending on the epoxy manufacturer, there is a common theme for inspection reporting. In general, the inspector must report on the strength and age of the base material, the drill bit compliance with ANSI B212.15-1994, the hole diameter, depth and cleanliness, the hole edge distance and spacing, the installation temperature, the adhesive product description and expiration date, the adhesive mixing procedure or the use of proper static mixing nozzles, the verification of properly mixed adhesive before injection into the holes and that the dowels were undisturbed during the gel time. Additionally, the dowel type, grade, diameter, length and cleanliness needs to be reported and a statement made that the anchor installation complies with the manufacturer's published instructions and the ICBO report. In order to properly inspect the epoxy-dowel installation, these reported inspection requirements must be met in all respects. It is essential to have the latest ICBO report in hand in order to perform the inspection. There is just too much information for most inspectors to remember. Keep in mind that these are the *minimum* reporting requirements for a successful inspection! Developing a checklist ahead of time that summarizes the inspection reporting requirements within the ICBO report is a good idea, as additional reporting issues can be added to it, such as whether pull testing of the dowel will be required at a later date. (I'll send an example via email if you write to greg.smith@uslaboratories.com) The amount of detail required to properly inspect epoxy-dowel systems is stunning for such a simple system, isn't it?

The Devil is in the Details

Unfortunately, by the time an inspector is confronted with this issue, the only choice is to follow the instructions in the ICBO report. If this step is *not* done verbatim, and the inspected item becomes a legal issue, how does a CCTIA member firm defend itself against the accusation of inadequate or incompetent inspection? It won't be easy, since any layperson that can read, can interpret the ICBO reporting requirements! It is a lot harder to make a case for improper inspection when the inspection process is not so well specified. For

example, concrete placement inspection requires a great deal of independent judgment, construction experience and relevant code knowledge in addition to the approved plan requirements. There is no 'cook-book' inspection procedure for concrete placement. The special inspector's competency to perform such inspection is based on successful examinations & acceptance by the local jurisdiction as a qualified person. There is no widely accepted detailed reporting requirement for the concrete inspector as there is for the epoxy-dowel inspector. The epoxy-dowel system doesn't require *any* specialized knowledge or experience. If you can read a 'cook-book', you can perform inspection of epoxy-dowel systems! This opens up an opportunity to question an inspector's competency based upon the lack of any inspector to 'forget' to report on a clearly specified item when there is a clearly specified procedure, regardless if there is any performance problem with the inspected item.

Report Quality is the Key

Fortunately, the solution from an inspection viewpoint is simple enough; CCTIA member firms must insist that inspection reports contain the respective ICBO reporting requirements. This may be a challenge for firms whose inspectors are highly trained professionals that normally rely on a great deal of independent judgment and experience to write their inspection reports. Telling them that they must report a certain way and in excruciating detail for even one single dowel is sure to be met with some criticism from some of them, as it can appear to be an insult to their integrity as an inspector. Imagine how the clients feel when they are told that the inspector must remain onsite to verify that the anchors were not disturbed during the gel time or how the contractor will feel when the inspector tells them that core drilling the holes is not a recognized method in the ICBO report? The important points to remember are that the reporting requirements are very detailed; that any layperson can severely critique an epoxy-dowel inspection report just by reading and that your firm never should be in a position to have to defend an inspection based on inadequate reporting of the inspection activity.

In Conclusion

Epoxy-dowel inspections are *still* one of the simplest systems for the specialty inspector to inspect, but there are detailed reporting requirements that must be met if the inspection confidence is to be maintained during report reviews, especially in a legal setting. CCTIA member firms can easily eliminate one source of potential liability through a combination of diligent report reviews of their special inspections & detailed training of the ICBO reporting requirements. Unfortunately, this is not the *only* inspection task that is open to scrutiny. Take a look at your NDT program (if you have one) & see if it measures up to withstand the same arguments presented herein!



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ASTM Redlines

By Terry L. Egland@ Testing Engineers

How many times have you discovered that the ASTM standard you've been using has been superseded, so you order a new version and sit there pondering what you just paid for? You quickly scan the document for obvious changes only finding a few and wondering what you've missed. Maybe a more common scene is the laboratory technician who has been performing the test procedure in his sleep and now receives the new document and doesn't find all the changes until CCRL or AMRL performs an audit and faces turn red.

Do you wish someone could just show you each word, reference and numeral that's been changed? Well ASTM must have been listening for now they offer a **REDLINE** version. Redlines are PDF documents that provide a quick and easy way to compare all changes between an active ASTM standard and its previous version. With a **REDLINE** you'll immediately see additions, deletions, and other changes between the active standard and its predecessor. A vertical bar appears in the left margin wherever a change has been made to a standard.

- ◆ Additions are noted with underlining.
- ◆ Deletions are noted with a strikethrough.
- ◆ Changes in charts and equations are indicated with strikethroughs, with the entire line containing the new information appearing below the original line.

A sample redline is available for you to view at:
www.astm.org/redlines.

