ACI 302 Meeting Agenda
for
Monday, April 23, 2007
Hilton Atlanta, Atlanta, GA
Grand Ballroom B, 8:30 am – 1:00 pm

1. Welcome & Introductions

2. Approval of minutes from Denver, CO meeting.

3. Announcements:
   • Denny Ahal - Fellow of the American Concrete Institute (FACI) – congratulations!

4. Liaison Reports:
   • 117 – Eldon Tipping:
   • 223 – Terry Fricks:
   • 301 – Al Engelmann, Scott Tarr:
   • 330 – Joe Bergmaier:
   • 360 – Art McKinney:
   • 504 – Steve Metzger:
   • 544 – Pete Tatnall:
   • Other:

5. New Business:
   • Ward Malisch
     ♦ Parking garage finishes
     ♦ Sectional boundaries for F-number minimum local values (see attached memo).

   • Carl Bimel – conflicts with PCA Concrete Floors on Ground

6. Focus task groups:
   • *Finishing Lightweight Concrete* – Denny Ahal
   • *Liquid Surface Treatment Standards* – Joe Bergmaier

7. Sub-Committees (Ballot proposed Changes)
   • Ch. 4 – Site Preparation & Placing Environment: Joe Neuber
   • Ch. 5 – Materials: Kevin MacDonald
   • Ch. 6 – Concrete Properties & Consistency: Joe Neuber / Ed Finkel
   • Ch. 7 – Batching, Mixing & Transporting: Kevin MacDonald
   • Ch. 9 – Curing, Protection & Joint Filling: Peter Craig

   • Sub-Committees (discussion for remaining chapters)

8. Balloting time table:

9. Final Discussions:

10. Adjourn
Pat Harrison

From: Ward.Malisch@concrete.org
Sent: Monday, April 09, 2007 10:44 AM
To: Pat Harrison
Subject: ACI 302 agenda topic
Follow Up Flag: Follow up
Flag Status: Yellow

Pat,

You might want to discuss a problem I’ve dealt with on the ASCC Hotline.

In discussing individual sections that measure less than either of the specified minimum local FF/FL numbers, Section 8.15.1.1 of ACI 302.1R-04, top of right-hand column on page 54 says:

“Sectional boundaries are usually set at the column and half-column lines on suspended slabs, or at the construction and contraction joints for slabs-on-ground. They should be no closer together than 1/2 bay.”

This wording is confusing. It seems to imply that a test section, as defined in ASTM E 1155, can be bounded by contraction joints in a slab on ground, which are often 12 or 15 feet apart. But Section 7.2.1 of ASTM E 1155 says: "No test section shall measure less than 8 ft on a side, nor comprise an area less than 320 ft.² That would mean that contraction joints could serve as test-section boundaries only if the joints were spaced at about 17.9 feet (17.9 x 17.9 = about 320 sq ft). Similarly, in a typical 30x30-ft bay for a suspended slab, setting the test section boundaries at 15x15 ft would result in an area of only 225 sq ft--less than the minimum 320 sq ft required in ASTM E 1155.

There is similar wording in Section 4.8.5.3 of ACI 117-06:

Minimum local values for flatness (MLFF) and levelness (MLFL) shall equal 3/5 of the SOFF and SOFL values, respectively, unless noted otherwise. The MLFF and MLFL values shall apply to the minimum areas bounded by the column lines and half-column lines, or the minimum areas bounded by the construction and contraction joints, whichever are the smaller areas.

I don't think sectional boundaries can usually be set at the column and half-column lines on suspended slabs, or at the construction and contraction joints for slabs-on-ground. And they can't even be as close together as 1/2 bay in some bays because the test-section area wouldn't be large enough to satisfy the requirements of ASTM E 1155, Section 7.2.1. Am I missing something? I'll be able to attend the ACI 302 meeting to hear the discussion. I bring up ACI 117 only because similar wording is used in that document. Obviously, ACI 302 can't make changes in ACI 117 documents.

Thanks for asking for my input. I'll see you in Atlanta.

Ward

Ward R. Malisch
Senior Managing Director
Pat Harrison

From: Ward.Malisch@concrete.org
Sent: Saturday, January 13, 2007 8:41 PM
To: Pat Harrison
Subject: Finishing methods for parking garages
Follow Up Flag: Follow up
Due By: Monday, January 15, 2007 12:00 AM
Flag Status: Blue

Pat,

In dealing with a Hotline question I tried to find some suggestions for finishing parking garage slabs and pretty much came up empty. There's one reference to silica fume concrete being struck off and then broomed, but I couldn't find much on recommended procedures re: strikeoff, consolidation, floating, troweling, and surface finish. Design of Durable Parking Structures (ACI 362R) has a very short section on finishing that doesn't say much, and the parking lot document (ACI 330R) is really light on the subject.

Do you know if this is covered in ACI 302.1R in a section I'm missing? I ask because an engineer is refusing to let a contractor use a vibratory strikeoff for parking-structure slabs because of fears that the air void system will be damaged enough to affect freeze-thaw durability. Some parts of ACI 302.1R seem to suggest that vibratory screeds shouldn't be used on elevated slabs, but that doesn't make much sense to me.

Is there a chance that a section on parking garage slabs in cold climates could be added to the next revision of ACI 302.1R?

Thanks.

Ward
Ward R. Malisch
Senior Managing Director
American Concrete Institute
38800 Country Club Drive
Farmington Hills, Michigan 48331
Phone: 248-848-3830
Fax: 248-848-3825
To:     Eldon Tipping, Pat Harrison, Wayne Walker, John Munday, Denny Ahal, Barry Foreman, Bob Gulyas, John Rohrer, Chuck Ault, Ed Finkel, Dennis Phillips, Joe Neuber, Rick Felder, Doug Deno, Terry Fricks, Bruce Suprenant, Scott Tarr

Date:  May 18, 2006

Although I do realize that most of you undoubtedly feel you are really busy now, I do hope you will just take “one minute” to read one page from PCA’s Concrete Floors On Ground manual. In this one page alone you will find by relying on semantics they literally ignored the time, effort, and certainly the experience of all of us on the ACI 302 and ACI 360 Committees.

By using the word “adapted” instead of “adopted” when specifically referring to ACI’s 302 table for Strength & Slumps, they went so far as actually indicating the best result for Class 5 and Class 6 floors could really be obtained by using concrete with a target 2” slump (you also note they “forgot” to include the reference “at the point of placement”). And then, in the case of Class 6 floors, they go out of their way to indicate that – contrary to the copy in ACI 360.R-62.9.6 – by increasing the cement content alone (which in itself is no surprise) they claim to “obtain as good a wearing finish as when an aggregate hardener was used”.

Since Steve Kosmatka of PCA has seemed to indicate he has had absolutely no complaints other than from me (see copy of my latest letter to him), he obviously is in no hurry to publish a revision. So NOW WILL YOU PLEASE WRITE STEVE and in your own words stress why – in all fairness to A/E’s, owners, and contractors – we certainly hope he will get that much needed revision out as soon as possible. Thank you.

Very truly yours,

Carl Bimel

Enclosures
Concrete Floors on Ground

Slump

Excessive water used to produce high slump is a primary cause of poor floor performance, as it leads to bleeding, segregation, and increased drying shrinkage. If a finished floor is to be level, uniform in appearance, and wear resistant, all batches placed in the floor must have nearly the same slump and must meet specification criteria.

Low slump (50 mm to 100 mm [2 in. to 4 in.]) concrete flatwork is routinely struck off with mechanical equipment like vibratory screeds. Typically, using such equipment for floor work facilitates concrete consolidation, requiring less water to be added at the job site, which ultimately results in improved wear resistance of the surface. Low slump concrete (see Fig. 4-3) helps to:

* reduce finishing time
* reduce cracking
* minimize surface defects

Recommended strengths and slumps for each ACI class of floor are given in Table 4-5, adapted from ACI 302.1R. This slump limit is the same whether or not the concrete contains chemical admixtures (superplasticizers or normal water-reducing admixtures). Table 1-1 defines all nine floor classes.

Air Content

Concrete for floors is usually not air entrained. A small amount of entrained air is sometimes useful for concrete floors because it reduces bleeding and increases plasticity.

A total air content (including both entrapped and entrained air) of 2% to 3% is suggested. Concrete that will be exposed to cycles of freezing and thawing and the application of deicer chemicals requires a greater total air content—about 5% to 8% depending upon maximum size of aggregate—to ensure resistance to scaling. For most floors discussed in this publication, the maximum size aggregate used will be between 9.5 mm and 37.5 mm (3/8 in. and 1-1/2 in.).

Table 4-5. Recommended Strength and Slump for Floors

<table>
<thead>
<tr>
<th>Floor class</th>
<th>Surface traffic</th>
<th>Slab surface</th>
<th>28-day compressive strength</th>
<th>Maximum slump **</th>
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<tr>
<td></td>
<td></td>
<td></td>
<td>MPa</td>
<td>psi</td>
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<td>foot</td>
<td>exposed</td>
<td>21.0</td>
<td>3000</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>covered</td>
<td>21.0</td>
<td>3000</td>
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<td>4500</td>
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<td>base</td>
<td>28.0</td>
<td>4000</td>
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<td>11</td>
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<td>36.0+</td>
<td>5200+</td>
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<td>12</td>
<td></td>
<td>superfinish*</td>
<td>31.0</td>
<td>4500</td>
</tr>
</tbody>
</table>

* Refer to Table 1-1 for floor class definitions.

** Target slump should be 25 mm (1 in.) less than the maximum shown to allow for mix variation. Some floor classes allow up to 125 mm (5 in.) slump.

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April 4, 2006

Mr. Steve Kosmatka  
Portland Cement Association  
5420 Old Orchard Road  
Skokie, Illinois 60077-1083

Dear Steve:

Although I frankly have not “bothered” you any further since we had several conversations back in 2002 regarding some copy - as you said was “adapted” from ACI 302.1-96, 4.5 - which recommended strength and maximum slump at point of placement, I couldn’t help but remember you told me that you hoped to get a revision out the next year.

I, of course, realize that in an organization as large as yours priorities can’t help but change from time to time, but I can assure you that a number of members of ACI 302 and, yes, ACI 360 will certainly appreciate anything you personally can do to get the revision out hopefully this year.

And, as I’ve said before, please don’t hesitate to let me know if I can possibly be of service in any way at any time.

Respectfully,

Carl Bimel

2412 Inglewood Ave., 6C  
Cincinnati, Ohio 45206

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Carl,  
of the 20 people on  
ACI 302 + 360 that asked to  
comment on 60075 only 1  
provided comments. The current  
draft is in PCA review. It  
still needs more work, from what  
I can tell. We hope to have it  
available by year-end or early  
07.  

Sincerely,

Carl Bimel  
4/25/06