



INDIANA CHAPTER – ACI THE PALINDROME

December, 2012

In This Issue

- President's Letter
- Upcoming Events
- Purdue Student Chapter Competes at ACI Fall Convention
- 2013 Annual Meeting "Save-the-Date"
- Floor Construction Vapor Issues – Knowing the Risks
- Coming Soon: 2013 Student Scholarship Applications
- Upcoming Certifications
- List of ICACI Officers & Board of Directors
- Indiana Chapter Website Info
- Tax-Exempt Status Notification

President's Letter

Looking back, this has been a good year for the Indiana Chapter, from the very successful Concrete 101 Workshop in February, to the Awards Banquet in April to a tour of our 2012 Project-of-the-Year (Belmont North Interceptor) in September to the Scholarship Golf Outing in October. Thanks to all who helped make these events enjoyable and rewarding to our members!

2013 promises to be a year of positive change as we anticipate roll-out of our new Chapter Website. Content is currently being finalized and we hope to have the site up and running in the first quarter. This portal will provide much easier access to information about Chapter membership, events, programs, certification classes, scholarships... in short, all that is going on within the Chapter. The Board is working diligently to get this done and make the site available as soon as possible.

We are also brainstorming ways to increase the quality and quantity our program schedule for 2013. The Board needs your ideas for potential programs and tours that would be of interest to our membership and relevant to the concrete construction industry. And we are always seeking qualified volunteers to help present and administer programs and tours. Please feel free to contact any Board member with your ideas and suggestions.

On a personal note, this past year was amazing for my wife and me with the birth of our first child. I appreciate all of you that have offered kind words of congratulations and encouragement. As those who are parents know, nothing puts life into better perspective than having a little one. It's a great reminder every day that people are what matter most... that the way we interact and engage with others is just as important as the work that we do. The Indiana Chapter was founded on the principle of educating us all on ways to do our work better, but its greater role may be in helping us interact and engage better together. I am hopeful that in 2013, you will seize an opportunity through ICACI to connect with others in our industry.

All the best,

Don Corson
ICACI President

Upcoming Events

January 22, 2013: Internal Curing of Concrete – The Pyramids, Indianapolis

April 10, 2013: Annual Meeting and Awards Banquet – Marriott North, Indianapolis

Contributing
and
Organizational
Member Links

Alt & Witzig
Engineering
317-875-7040

Bowen
Engineering
317-842-2616

Builder's
Concrete &
Supply Co.
317-570-6201

Earth
Exploration
317-273-1690

Fink Roberts &
Petrie,
Inc.
317-872-8400

Indiana Ready
Mixed Concrete
Association
317-872-6302

Irving Materials,
Inc.
317-326-3101

Lehigh Cement
Co.
317-819-1600

F. A. Wilhelm
Construction
317-359-5411

Purdue Student Chapter Contingent Competes at ACI Fall Convention

(Letter received from the Purdue University Student Chapter)

We, the Purdue Chapter of ACI, were completely elated upon hearing from Tom Grisinger about the extremely generous donation [from the Indiana Chapter ACI] that was made to us. A vast majority of the donation was used to fund our costly trip to Toronto, Ontario for the American Concrete Institute's Egg Protection Device Competition. Due to your generous donation, five Purdue ACI members were able to attend the competition in Canada.

Construction of our egg protection device (EPD) began in early

September. All in all, we made a

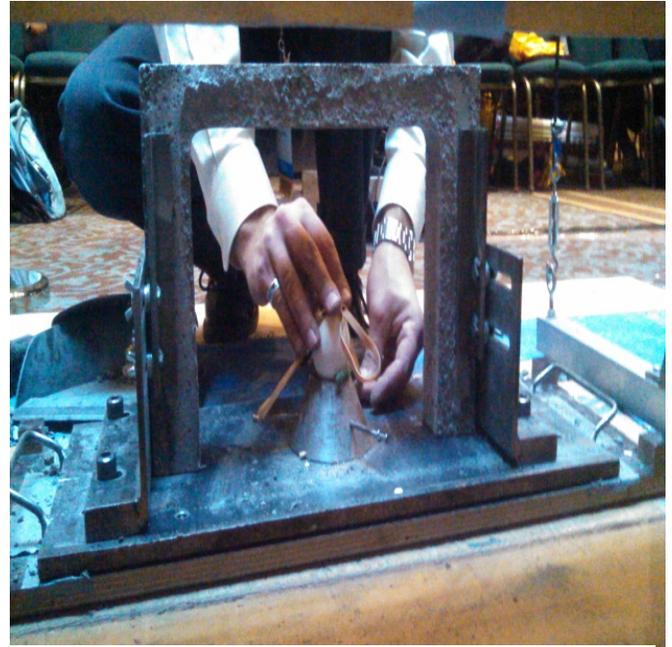
total of three different devices. The first device looked great, but was slightly overweight. Additionally, the reinforcement for our original trial was very primitive, prompting us to completely rethink our reinforcement design. The second EPD was cast in late September and again was slightly over-weight. The third trial, upon tweaking of the mix design and the reinforcement, was cast in early October. The third EPD was our final trial, and was the EPD that was brought to Toronto. The EPD looked very polished and was under the



EPD being placed under impact zone.

maximum weight. While the curing time was not as long as we had planned for (only about ten days), we felt that the additional time spent on modifying the mix design and reinforcement was well worth it. All in all, we estimate that from our nearly five weeks of working on this competition, we put in about seventy-five man-hours.

As you know, the competition was Sunday October 21, 2012. There were a total of twenty-four teams that participated in the competition. The competition essentially was broken up into three steps. The first step was to measure the weight, the second was to measure the height and width specifications, and the third step was to actually have the weight dropped on the device. The first step went well for us, due to the fact that our final weight was more than 100 grams under the maximum weight. The second step, unfortunately, did not go so well for us. Due to the fact that we rounded off our corners to reduce stress concentrations, the box which was supposed to fit beneath our device was not able to fit.



Egg Protection Device (EPD) installation into testing assembly.

[ACI Links](#)

ACI
International -
American
Concrete
Institute

www.concrete.org

Indiana Chapter-
ACI

www.concrete.org
("Chapters" link)

In regard to steps one and two, it was of slight comfort to us to know that eleven of the twenty-four teams in attendance were not able to pass the first two steps (several other teams could not even participate, due to the fact that they did not turn in their report). Nevertheless, in the third step, our device was tested and failed at a height of 1.5 meters (about the average maximum height reached by most teams).

This competition was truly an enlightening experience for all of us in attendance. It showed us what worked well in our project and what should be changed for the future. For the future semesters, we are going to make a more concentrated effort in providing future Purdue American Concrete Institute teams with this

semesters and the upcoming semester's competition information.

Again, we would like to thank you for your generous contribution. We were devastated in not having won the competition, but thoroughly enjoyed representing our school.

Sincerely,

Purdue Chapter of the American Concrete Institute
Matt Lingam-President
Jared Kugelman-Vice President
Andrew Wiese- Treasurer
Cameron Seymour- Member
Taylor Washington- Member



Destroyed EPD.

Annual Meeting and Awards Banquet – Save the Date – Wednesday, April 10, 2013

Make plans now to save the date for the Annual Meeting and Awards Banquet at Marriott North in Indianapolis. Now is the time to start gathering your project submittal information (**high-quality photographs, clear and concise project data, and information on how concrete contributed to the project's success**). Look for Awards Program entry information coming in the very near future!

Industry Links

National Ready
Mixed Concrete
Association

www.nrmca.org

Indiana Ready
Mixed Concrete
Association

www.irmca.com

Precast/Prestressed
Concrete Institute

www.pci.org

American Concrete
Pavement
Association

www.pavement.com

National Precast
Concrete
Association

www.precast.org

Concrete
Reinforcing Steel
Institute

www.crsi.org

American Society
of Civil Engineers

www.asce.org

Indiana Section-
American Society
of Civil Engineers

www.inasce.org

PCA - Portland
Cement
Association

www.cement.org

Floor Construction Vapor Issues – Knowing the Risks

By Sean Smith, PE – ICACI Board Member

For many projects, especially those in which moisture sensitive floor coverings are anticipated to be utilized, the installation of a vapor retarder or vapor barrier employed below floor slabs is a fairly common option to help protect against potential moisture vapor. However, though the use of a vapor retarder or vapor barrier is common, so are the debates on the risks of utilizing a vapor retarder or vapor barrier! As with most things in life, having a better understanding of a subject matter lets you weigh the positives and negatives and then determine what level of risk you are willing to accept.

As a geotechnical engineer I inherently believe we should start the topic from the ground up. Moisture vapor or free moisture can exist on any site and develop below any structure. All soils have some amount of free moisture which can potentially penetrate through floor slabs placed over the soils. Additionally, construction practices, which generally require the introduction of moisture to achieve suitable compaction of structural fill soils below structures, can increase the free moisture potential (increased potential long-term especially in clay soils). This moisture vapor or free moisture within the underlying soils below a structure can become a potential issue when the static vapor pressure (based upon the temperature and humidity of the environment) inside a building envelope is less than (often half) the pressure below a concrete slab; which then can allow available moisture below floor slabs to be drawn-in through the floor slabs and trapped beneath floor covering materials.

In order to help prevent moisture vapor or free moisture from migrating up through floor slabs, the use of a vapor retarder or vapor barrier placed below the floor slabs generally seems to be a reasonable solution to the moisture vapor problem. But hold the phone..., though the vapor retarder or vapor barrier becomes the solution to one problem, it has also has been shown to have the potential to cause other problems. The curing of a concrete floor slab can be effected by the installation of an underlying vapor retarder or vapor barrier, potentially creating issues such as; settlements, slab curling, reduction in surface flatness and some blistering. These issues can potentially arise when the concrete is not able to lose a sufficient amount of water to the underlying base course or subgrade soils, especially with concrete placed directly on a vapor retarder or vapor barrier. The effects can also be compounded in areas where slabs are confined on multiple sides by additional slabs or structures, therefore also restricting the concrete to expel water during curing from the sides of the slab. If sufficient water lose to underlying slab materials or to the edges of the concrete is not obtained, then hardening of the concrete is prolonged and with that the increased potential for length change and shrinkage can occur. Additionally, the prolonged hardening can also lead to a situation where the immediate surface of the concrete dries requiring the finishers to begin machine operations, but directly underneath the surface the concrete has yet to harden sufficiently for such work to commence.

So.....welcome to the no-win situation! Do you as an owner not utilize or as a designer not recommend a vapor retarder or vapor barrier and risk the potential for long-term maintenance of the floor covering? Or do you as an owner utilize or as a designer recommend a vapor retarder or vapor barrier and risk the potential of slab related problems which may cause repairs of slab and/or floor covering, maybe even making proper installation of the floor covering not possible? Well... problems have occurred

with floor slabs and flooring covers with and without the installation of a vapor retarder or vapor barrier, so there is always a risk for some problems no matter what. If vapor retarders or vapor barriers more often than not caused significant problems on projects, then of course the general industry practice would not be considered applicable and there would not be any debates. However, the use of the vapor retarders or vapor barriers has been shown to work and perform reasonably on projects where moisture vapor or free moisture is a potential concern. The key is knowing the risks, knowing the best approach for the specific project and conditions, and hiring qualified consultants, general managers, construction managers and contractors who have experience with the design and installation of vapor retarders or vapor barriers and are able to provide the best-practice solutions fitted to limit the risks for the project.

Some of the best-practice additional solutions to aid in reducing the risks of moisture vapor control as well as construction related problems with concrete curing can include; increased aggregate sub-base thickness to increase the capillary break potential, development of concrete mixes that dry more quickly and finishing techniques that keep the surface open to allow slab drying. By increasing the aggregate sub-base thickness, the amount of potential air pockets which can break the capillary action or wicking of water are also increased; hence allowing for the reduction of potential free moisture. The development or design of concrete mixes that dry more quickly and utilize less water which may need to be expelled is an option to help reduce curing problems. The use of a low water-cement concrete in conjunction with mineral admixtures (i.e. silica fume, fly ash, etc...) could be considered, though placement and workability should be anticipated to be more difficult with such a material. Finally, because moisture movement through a concrete slab surface is important for drying purposes, a lightly troweled surface finished with plastic trowel blades is generally considered the most appropriate for moisture sensitive floor covering areas. Densely troweled floor finishes can provide a thin densified surface that inhibits moisture loss through the surface.

Coming Soon: Student Scholarships for 2013

Did you know that the Indiana Chapter of ACI offers scholarships to deserving students at Indiana colleges and universities pursuing careers in the construction industry? Each year, sophomores and juniors are invited to submit applications. The ICACI Board of Directors evaluates all entries and awards scholarships to the winning applicants at the Annual Meeting and Awards Banquet. Look for Scholarship Applications to be distributed very soon!

Upcoming Certification Dates

ACI Concrete Field Testing Technician, Level 1 programs are indicated below.
Additional dates will be determined in the near future.

TBD in 2013! - Contact Tom Grisinger for information.

First Day: Review Class; Second Day: Written and Practical Exams

Certification Program Policy: Examiners and Supplemental Examiners (Proctors) are required to be a Member of Indiana Chapter ACI; either through an Individual Membership or under a Company Membership.

For a registration flyer or questions about the program, please contact Eileen Dick ~
phone (317) 872-6302.

The ACI – Indiana Chapter extends a big “THANK YOU!!” to Builder’s Concrete for
hosting the Indianapolis area certification programs in 2012.

ICACI Officers and Board of Directors

President: Don Corson – American Structurepoint

(317) 547-5580 dcorson@structurepoint.com

Vice President: Ryan Decker – F.A. Wilhelm

(317) 359-5411 ryandecker@fawilhelm.com

Past-President: Jack Springer – Construction Resource Company

(260) 413-0705 jack.springer71@gmail.com

Secretary/Treasurer: Tom Grisinger - Lehigh Cement Co.

(317) 409-3218 tgrisinger@lehighcement.com

Director: Ashley Frantz – Great Lakes Chloride

(317) 872-6302 afrantz7@gmail.com

Director: Tom Hart – Messer Construction

(317) 576-9250 thart@messer.com

Director: Rich Gardner – Ozinga Ready Mix

(219) 741-5885 richgardner@ozinga.com

Director: John Krupski – American Structurepoint

(317) 547-5580 jkrupski@structurepoint.com

Director: Sean Smith – Patriot Engineering & Environmental

(317) 576-8058 ssmith@patrioteng.com

Director: Mike Browne – Irving Materials, Inc.

(317) 536-6650 mike.browne@irvmat.com

Indiana Chapter ACI Website

The Indiana Chapter has a website where you can find information on upcoming events, such as, ACI certification classes, programs, and golf outings. Membership applications, Award nomination forms, Scholarship applications and other information are also available. Please go to www.concrete.org, then click on the “Chapters” tab and select “Indiana”.

IC-ACI Tax-Exempt Status

As a tax-exempt organization, the Indiana Chapter American Concrete Institute is required to file an annual Return to the Internal Revenue Service. The Return is available for review by any member of IC-ACI. For information, contact Tom Grisinger, Secretary/Treasurer at 317-409-3218 or tgrisinger@lehighcement.com.



Please join Indiana Chapter ACI for this Breakfast Program:

Internal Curing of Concrete

Date: Tuesday, January 22, 2013

Time: 8:00 – 8:30 am Breakfast / Registration
8:30 – 9:30 am Program

Cost: \$ 10.00 - to IC-ACI Members and Non-Members.

Location: Pyramid 3 – Lower Level, Rooms A & B
3500 DePauw Blvd
Indianapolis, IN 46268

Please Register by January 17, 2013 – see attached Registration form

A big Thanks to Hydraulic Press Brick for sponsoring this Program!

1.0 Engineering Professional Development Hour (PDH) available

Program: The program introduces the concept of using pre-wetted lightweight aggregate to provide internal curing for normal weight concrete. It reviews significant research results, details specific benefits provided by internal curing, and provides examples of current-use in projects located throughout the United States. Discussion includes how the benefits of internal curing make concrete a more sustainable material.

Speaker: Jack Spaulding is a field representative for Hydraulic Press Brick Company. He has been a field employee of Hydraulic Press Brick for ten years and has an extensive background in materials testing, concrete design and concrete production.

	<p align="center"> Indiana Chapter American Concrete Institute 3500 DePauw Blvd, Suite 1081, Indianapolis, IN 46268 Ph: 317-872-6302 / Fax: 317-872-6313 </p>	
---	--	---

Registration: Internal Curing of Concrete

Registration Deadline January 17, 2013

Company Name:	
Contact Person / Phone:	
Attendees:	

AMMOUNT DUE: Number Attending x \$ 10.00 each = \$ _____

Please Email or Fax registration to: Indiana Chapter- ACI

- Fax: (317) 872-6313 (Attn: Eileen Dick)
- Email: edick@irmca.com

PAY BY CHECK: Please send check payable to “Indiana Chapter ACI”

Indiana Chapter ACI
 3500 DePauw Blvd. Suite 1081
 Indianapolis, IN 46268

PAY BY CREDIT CARD:

Type of Card: (Check one) <input type="checkbox"/> MasterCard <input type="checkbox"/> Visa			
Card Number:		Expiration Date:	
Cardholder Name:		Security Code:	
Cardholder Signature:		Amount:	
Address:	City:	State:	Zip Code:

Note: Security Code may be found next to the signature line on the back of the card.