



FROM PCI HEADQUARTERS

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2012 Productivity Tour set for Orlando area

The 2012 Productivity Tour will be November 6–9 in Orlando, Fla. The five PCI-certified plants that produce both structural and architectural products are Finrock Industries in Orlando; Gate Precast Co. in Kissimmee, Fla.; Standard Concrete Products in Tampa, Fla.; Coreslab Structures in Tampa, Fla.; and Metromont Corp. in Bartow, Fla. The plants on the tour are all within close proximity to each other, limiting drive time between plants.

New this year will be a visit to state-of-the-art plants recently opened by Metromont and Finrock. Metromont has a unique flying bucket for placing concrete. Finrock is using laser images generated from three-dimensional models and projected directly onto the forms to eliminate the need for paper drawings.

An opening-night meet-and-greet reception will help connect attendees with managers in businesses similar to their own.

The annual Ideas That Pay Off contest will offer attendees an opportunity to share ideas and best practices.

Win prizes for taking online *PCI Journal* reader survey

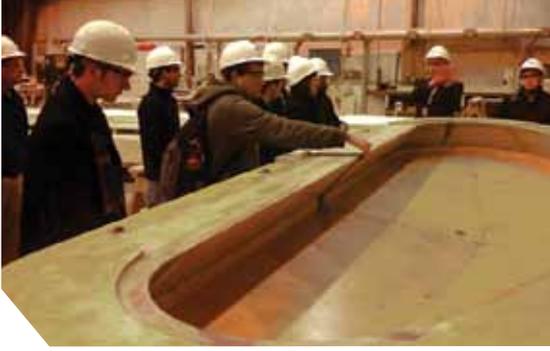
Take part in the 2012 *PCI Journal* reader survey to have your opinions heard and to be entered into a drawing. The first 10 respondents will receive a \$25 Visa gift card. All online respondees have a chance to win a new Apple iPad or Kindle Fire.

The survey is 20 questions and should take 5 to 10 minutes to complete. We value your feedback and want to use it to deliver a product that meets your needs. You can access the online survey at www.pci.org/journal/survey or by scanning the QR code on the cover or table of contents. The deadline for completing the survey is May 31, 2012.

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PCI DESIGN AWARDS CALL FOR ENTRIES

PCI is now accepting entries for the 50th Annual PCI Design Awards. The PCI Design Awards program recognizes design excellence and construction quality using precast concrete. The deadline to submit a project is May 21, 2012. Winners will be announced in July. Visit the PCI Design Awards website at www.pcidesignawards.org/2012intro for complete information, including this year's categories and submission guidelines. All winning projects will be showcased at the PCI Convention and National Bridge Conference and will be included in *PCI Journal*, *Aspire*, and *Ascent* magazines. Also this year, PCI is holding a competition to design a new PCI Design Awards trophy. Details will be available on the 2012 PCI Design Awards webpage. For more information, contact Brian Miller at (312) 360-3216 or bmiller@pci.org or Jennifer Peters at (312) 583-6780 or jpeters@pci.org.



Precast Studio architectural students from the New Jersey Institute of Technology visit the Coreslab Structures plant in Thomaston, Conn. The PCI Foundation sponsors the Precast Studios. Courtesy of Matthew Burgermaster, NJIT.

Precast Studio students visit Coreslab

Architectural students from the New Jersey Institute of Technology (NJIT) visited the Coreslab Structures plant in Thomaston, Conn., as part of one of the ongoing Precast Studios. During the semester-long studio, students design a hydroponic research facility using precast concrete.

The project is on an urban site next to an interstate highway in Jersey City, N.J., which is one of the reasons that it is an ideal precast concrete project.

The 17 architectural students in the course are mostly seniors taught by Matthew Burgermaster, assistant professor at NJIT, and coordinated with the Mid-Atlantic Precast Association.

The NJIT studio is the fifth studio of this type to be sponsored by the PCI Foundation. Other studios have taken place at the Illinois Institute of Technology, University of North Carolina–Charlotte, University of North Florida School of Engineering, and California State Polytechnic University.

“In just seven years, the PCI Foundation has sponsored 14 semester-long studios at five universities,” says Tom D’Arcy, chairman of the PCI Foundation Board of Trustees. “Just over 250 students have taken part in a one-of-kind industry/educational partnership that is leading the way for the future of precast design.”

PCI Foundation raffle takes in \$3000

The PCI Foundation’s raffle at Committee Days raised more than \$3000 to fund education programs geared toward ensuring the future of the precast concrete industry. Winners of the raffle were Tess Ahlborn of Michigan Technological University, who received a \$1000 gift card for Ponte Vedra Resort in Jacksonville, Fla.; Carin Roberts-Wollmann of Virginia Polytechnic Institute and State University, who won a PlayStation 3; and Larbi Sennour of The Consulting Engineers Group, who received a gift card for Capitol Grille.

The raffle at Committee Days is just a warm-up to other fund-raising plans this year. During the 2012 PCI Convention in Nashville, Tenn., a silent auction and a raffle will take place. A 100th anniversary Harley-Davidson motorcycle, donated by JVI, will be the grand prize to follow this year’s theme, Rev It Up!

“We are planning a really fun event,” says 2012 auction chairman Pat Hynes of Knife River. “But even if you can’t be there in person, you can still get a chance to win. We hope to give lots of people in our industry a chance to help the foundation make a future for precast through education.”

Raffle tickets will go on sale online this summer. Information will be available after the PCI Summer Conference.

PCI SUSTAINABILITY MANAGER OPENING

PCI has an opening for manager, sustainability programs, to report to the director of quality and sustainability programs at PCI headquarters in Chicago, Ill. This position will be generally responsible for strategic and tactical management of PCI activities relating to sustainable development for the precast concrete structures industry. If you are interested in this position, please forward a letter of interest and resume to Christine Bulvan at cbulvan@pci.org.



**Precast/Prestressed Concrete Institute
Technical Bulletin 12-001
March 6, 2012**

Ledge Punching Shear Advisory

A recently completed PCI-sponsored research project concerned with torsion design of load-bearing spandrel beams was conducted at North Carolina State University (NCSU) under the direction of professors Sami Rizkalla and Paul Zia. Full-scale spandrels were tested as a part of the experimental portion of this project. In three instances, ledge punching shear failures occurred, each at test loads substantially less than the nominal strength calculated by the current (seventh edition) *PCI Design Handbook: Precast and Prestressed Concrete* Eq. (5-44) through (5-47). Because it was outside the scope of the project, specific modifications to existing design recommendations that address these failures were not developed by the researchers. Concerns regarding these ledge failures have prompted reexamination of the report from a specially funded research project completed in 1985 and titled *Design of Spandrel Beams*, which was prepared by Wiss, Janney, Elstner Associates (WJE). While not the focus of the research, two ledge punching shear failures at loads less than calculated were observed during the course of that project as well. For that project, funding limitations also prevented development of appropriate modifications to the design procedures.

The problem identified was that the observed failures occurred at loads less than the capacity calculated by the PCI Design Handbook equations. Common current applications for spandrel beams typically involve full service loads that induce ledge loading demands substantially less than the punching shear capacity provided by the concrete alone as currently calculated. The trend over recent years has been to produce wider double tees; widths have increased from 8 ft (2.4 m) to 10 ft (3.0 m) to 12 ft (3.7 m) and even 15 ft (4.6 m). Also, as green roofs and mixed occupancies are becoming more popular, significantly heavier stem loads are being encountered.

The PCI Technical Activities Council wants to highlight these findings for the industry. A research project has been created and awarded to develop more accurate design procedures through analysis and testing. However, it will be about two years before the work can be completed.

In the interim, it is recommended that heavy stem loads on spandrel ledges be carefully considered. Because the extent of the problem is presently not well understood, it is suggested that the NCSU and WJE research reports be used as guidance for specific conditions that you may encounter. For your convenience, the full reports have been loaded on the PCI website; the reports may be accessed at www.pci.org/research/.

It should be pointed out that the NCSU project, which imparted heavy loads on the ledge to adequately test the spandrels, used some armored ledges to enhance punching shear capacity. The concept is illustrated in the research report. Should you find a situation in which additional capacity would be prudent, it is recommended that something similar to these armoring details be used.

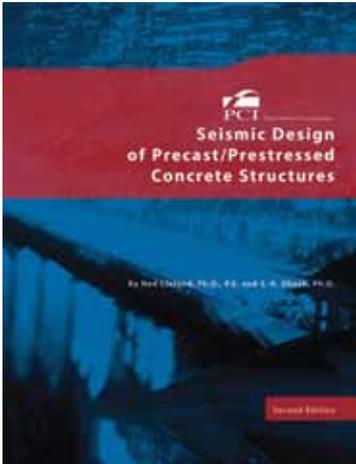
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Seismic manual, information available online

The second edition of *Seismic Design of Precast/Prestressed Concrete Structures* is now available as an electronic publication at www.pci.org/epubs.

This new manual assists in the design of precast concrete structures using the seismic design provisions of the 2006 edition of the *International Building Code*. These provisions are discussed in detail and illustrated with examples of typical building and parking structures located in regions of low, moderate, and high seismic hazard.

PCI has also launched a seismic webpage that highlights PRESSS (Precast Seismic Structural Systems) and DSDM (Diaphragm Seismic Design Methodology) research and includes several articles, information, and videos. This site, along with the new seismic design manual, was promoted at the 2012 SEI Structures Congress. PCI also presented a track of seismic sessions and exhibited. Visit www.pci.org/seismic to view the new webpage.

In conjunction with the release of the second edition of the *Seismic Design of Precast/Prestressed Concrete Structures*, the first edition of the publication is now available to members for \$43.75 (75% off the original member price) through the PCI bookstore. Limited quantities are available.

Erectors Committee finalizes special inspector training with International Code Council

The Erectors Committee continues to work with the International Code Council (ICC) to develop educational information for third-party inspectors. The committee assisted in crafting the stability portions and other areas for the development of a draft program to train special inspectors to inspect precast concrete parking structures and large projects in which third-party inspectors are required by ICC.

The work covers areas such as welds, bearing conditions, stability of an overall building, and stability of individual precast concrete pieces. The committee met in October 2011 to review each of the seven modules, and the initial draft of the PCI program was completed in early December 2011. The report is now in PCI hands, and Chuck Wynings, chair of the PCI Special Inspectors Task Group, says that some photos and figures will be updated by June 2012. The committee finalized changes in time for the 2012 PCI Committee Days and Membership Conference and is considering a webinar on the subject.

DISTINGUISHED EDUCATOR AWARD CALL FOR NOMINATIONS



The PCI Student Education Committee invites nominations from PCI members for PCI's 2012 Distinguished Educator Award. The objective is to recognize distinguished educators in the fields of engineering, architecture, and construction technology who have made significant contributions to the precast/prestressed concrete industry. Nominations must be received at PCI headquarters by July 1, 2012. For nomination forms and additional information, contact Alex Morales at amorales@pci.org or (312) 360-3219

PCI-IW kicks off new CEO program

In February, PCI of Illinois and Wisconsin (PCI-IW) hosted its first CEO Forum, a program that allows Producer Members to share insights, best practices, and new ideas and perspectives. The topic of the February event was Contract Administration Issues for Precasters, and it was held at The Consulting Engineers Group office in Mount Prospect, Ill.

The CEO Forum will meet quarterly, with upcoming meetings planned for May, August, and November, to identify industry issues and create solutions for PCI-IW members.

For more information, contact PCI-IW regional director Marty McIntyre at martymci@pci-iw.org.

New bridge publications now available on PCI's e-publication webpage

PCI's *State of the Practice of Precast/Prestressed Adjacent Box Beam Bridges* and *State of the Art Report on Full-Depth Precast Concrete Bridge Deck Panels* are now available as electronic publications at www.pci.org/epubs.

State of the Practice of Precast/Prestressed Adjacent Box Beam Bridges presents the state of the practice on adjacent precast, pretensioned box beam bridges. A discussion on current practice, historical issues, lessons learned, and improved performance of box-girder bridges is provided in the report.

The *State of the Art Report on Full-Depth Precast Concrete Bridge Deck Panels* is a guide for selecting, designing, detailing, and constructing precast concrete full-depth deck panels for bridge construction.

PCI FELLOW NOMINATIONS

PCI is now accepting nominations for PCI Fellows, to be awarded during the 2012 PCI Convention and National Bridge Conference in Nashville, Tenn. Please submit your nominations to PCI headquarters, Attn: President's Office, 200 W. Adams Street, Suite 2100, Chicago, IL 60606, by April 30, 2012. Contact Rebecca Coleman at bcoleman@pci.org or (312) 583-6783 for more information or for an application form.

PCI MEDAL OF HONOR NOMINATIONS

Nominations for the PCI Medal of Honor, presented during the 2012 PCI Convention and National Bridge Conference, should be submitted by May 25, 2012, to PCI headquarters, Attn: President's Office, 200 W. Adams Street, Suite 2100, Chicago, IL 60606. Please submit your nomination in letter format with appropriate biographical and supporting information attached. Endorsements from others supporting the nomination are encouraged. Contact Rebecca Coleman at bcoleman@pci.org or (312) 583-6783 for more information.



John J. Roller



Henry G. Russell



Robert N. Bruce Jr.



Walid R. Alaywan

PCI Journal paper on prestress losses receives ASCE's 2012 T. Y. Lin Award

The authors of "Evaluation of Prestress Losses in High-Strength Concrete Bulb-Tee Girders for the Rigolets Pass Bridge," which appeared in the Winter 2011 issue of *PCI Journal*, have been selected for the American Society of Civil Engineers (ASCE) 2011 T. Y. Lin Award. Established in 1968, this annual award honors outstanding engineers and their contributions in the field of prestressed concrete and is bestowed on authors of meaningful papers that advance the field.

The authors of the winning paper are John J. Roller, principal structural engineer with CTLGroup in Skokie, Ill.; Henry G. Russell, an engineering consultant with Henry G. Russell Inc. in Glenview, Ill.; Robert N. Bruce Jr., the Boh Chair Emeritus in Civil Engineering at Tulane University in New Orleans, La.; and Walid R. Alaywan, senior structures research engineer at the Louisiana Transportation Research Center in Baton Rouge, La.

The paper established actual prestress losses measured on high-strength bulb-tee girders on the newly constructed Rigolets Pass Bridge in Louisiana. This research led to proposed revisions to the *AASHTO LRFD Bridge Design Specifications* that would allow more accurate predictions of prestress losses.

Professor T. Y. Lin, a prestressed concrete pioneer, endowed the award to the ASCE in 1968 to recognize outstanding engineers and their contributions to the field of prestressed concrete. The award is presented each year for the best paper written or coauthored by members of ASCE in the various publications of ASCE, PCI, and the American Concrete Institute during a 12-month period.

The award will be presented this fall at the 2012 PCI Convention and National Bridge Conference in Nashville, Tenn.

The paper is available online at www.pci.org/publications/journal.

CIM holds record-breaking auction at World of Concrete in Las Vegas

The National Steering Committee (NSC) for the Concrete Industry Management (CIM) program raised more than \$617,750 in gross revenue at its seventh annual auction, held on January 25, 2012, in conjunction with the World of Concrete in Las Vegas, Nev.

The 2012 World of Concrete auction surpassed last year's total proceeds by more than \$100,000 and exceeded the previous record by \$50,000.

The signature item this year was a Mack Truck model GU813 equipped with a McNeilus concrete mixer donated by Mack Trucks Inc. and McNeilus Co., a division of Oshkosh Truck. The winning bidder of the mixer truck was Danny Rodgers, president of MMC Materials Inc., an operating company of Dunn Investment Co.

The money raised will benefit the NSC and support the current CIM program as well as help fund future program expansion.

A silent auction was also held.

—CIM

2012 PCI Market Survey coming soon

PCI is slating a survey to help PCI and its members better understand the precast concrete structures market. The survey asks for simple sales and market data along with some input on PCI's performance.

When the data are aggregated and compared with national data, they become a tool in identifying market opportunities and threats, understanding precast concrete's market share and market dynamics, and planning market strategy. All individual data are confidential, and participants are eligible to win prizes such as free flights and registration to the 2012 PCI Convention and National Bridge Conference and gift certificates. All participants will receive a complimentary copy of the final report. The 2012 PCI Marketing Survey will be sent to PCI Producer Members in mid-April.

In addition, the 2011 PCI Market Survey is now available for members to purchase through the PCI Bookstore for \$200.

Third edition of *PCI Bridge Design Manual* available as an e-book

The third edition of the *PCI Bridge Design Manual* is now available as an electronic publication at www.pci.org/epubs.

This up-to-date reference complies with the fifth edition of the *AASHTO LRFD Bridge Design Specifications* through the 2011 interim revisions. The third edition includes a new chapter on sustainability and a completely rewritten chapter on bearings that explains the new method B simplified approach. Eleven LRFD up-to-date examples illustrate the various new alternative code provisions, including prestress losses, shear design, and transformed sections. The retail cost for the e-publication is \$395. The PCI member rate is \$245.

Holders of the previous *PCI Bridge Design Manual* and college students and faculty also qualify for discounted rates. Email pcibridgemanual@pci.org for more details and to see if you are eligible for a discount. ¶

Compiled by K. Michelle Burgess (mburgess@pci.org) and Whitney Stephens (wstephens@pci.org)

PCI CODES AND STANDARDS MANAGER OPENING

PCI has an opening for manager, codes and standards, to report to the managing director of technical activities at PCI headquarters in Chicago, Ill. This position will be generally responsible for strategic and tactical management of PCI activities relating to the development and improvement of codes and standards that affect the precast concrete structures industry. If you are interested in this position, please forward a letter of interest and resume to Christine Bulvan at cbulvan@pci.org.

YOUNG EDUCATOR AWARD CALL FOR NOMINATIONS

The PCI Student Education Committee invites nominations from PCI members for PCI's 2012 Young Educator Award. The objective is to recognize young educators in the fields of engineering, architecture, and construction technology who have made significant contributions in their early careers to the precast/prestressed concrete industry. Nominations must be received at PCI headquarters by July 1, 2012. For nomination forms and additional information, contact Alex Morales at amorales@pci.org or (312) 360-3219.

PCI Personnel Training and Certification Schools

If you have any questions about the Quality Control School schedule or need help completing a registration form, please contact PCI's educational activities director, Alex Morales, at amorales@pci.org or (312) 360-3219. Registration forms are available at www.pci.org/schools.

Level I/II

May 7–9, 2012

Nashville, Tenn.

August 29–31, 2012

Chicago, Ill.

Level III

May 9–12, 2012

Nashville, Tenn.

CFA/IES

May 7–9, 2012

Nashville, Tenn.

CCA

May 10, 2012

Nashville, Tenn.

PCI Calendar

Events

For the most current information on PCI events, visit www.pci.org/events. For industry events, visit www.pci.org/news/events.

PCI Contract/Insurance Workshop

May 9–11, 2012

Embassy Suites, Nashville Airport, Nashville, Tenn.

PCI Summer Conference

June 28–July 1, 2012

James Hotel, Chicago, Ill.

PCI-IW Meeting and Golf Outing

July 24–25, 2012

Lake Geneva, Wis.

PCI Northeast Annual Meeting

September 13–14, 2012

Heritage Hotel and Resort, Southbury, Conn.

PCI Convention and National Bridge Conference

September 29–
October 3, 2012

Gaylord Opryland Resort and Convention Center, Nashville, Tenn.

2012 PCI Productivity Tour

November 6–9, 2012

Orlando, Fla.

PCI-IW Member Meeting and Social

December 5, 2012

Location TBD

PCI Convention and National Bridge Conference

September 21–25,
2013

Gaylord Texan Resort and Convention Center, Grapevine, Tex.

PCI Convention and National Bridge Conference

September 6–10,
2014

Gaylord National Resort and Convention Center, National Harbor, Md.

PCI Convention and National Bridge Conference

September 19–23,
2015

Gaylord Opryland Resort and Convention Center, Nashville, Tenn.

Survey on high-priority topics for research at PCI

To: PCI Producer, Associate, and Professional Members

Do you know that each year PCI allocates 7% of Producer Member and Associate Member dues for projects conducted under the auspices of the PCI Research and Development Committee? Despite this commitment by PCI, total industry expenditures for research conducted on topics of specific interest to the precast concrete industry are still relatively low compared with those for competitor industries. It is especially important that we spend PCI's research dollars wisely. Accordingly, we are asking for your help.

Periodically, we solicit input from the entire PCI community regarding your opinions on technical research activities that could produce knowledge that would benefit your organization and the industry's market share. We then summarize these data in the form of a prioritized listing titled "Top 10 PCI Research Topics." This list is shared with prospective researchers to assist them as they develop research proposals to be funded as regular PCI (major) projects and/or PCI (Daniel P. Jenny) Research Fellowships, as well as those to be funded entirely or in part by other research agencies, such as the National Science Foundation, the National Institute of Standards & Technology, and the Federal Highway Administration.

We have designed a survey form to facilitate your providing us with your opinions regarding current technical research needs. In addition, we are requesting that you tell us about your company's current and recent (nonproprietary) research and development activities.

Please send your response to Roger Becker at PCI as indicated on the survey form.

Harry Gleich
Chair, PCI Research &
Development Committee

Research & Development Survey

Please list below the four most pressing technical problems that, in your opinion, confront the precast/prestressed concrete industry today. Provide a brief statement of scope and objective(s) of research that would address each proposed topic. Attach additional sheets as required.

1. _____

2. _____

3. _____

4. _____

Please describe your company's current and recent (past 5 years) nonproprietary research and/or testing. Attach additional sheets as required.

Additional comments. Attach additional sheets as required.

Please mail/email/fax this sheet to

Roger Becker
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Name (please print)

Position

Company

Telephone

Fax

Email