



Cincinnati Opts for Its First All-Precast School



The architect pushed to take as much steel and masonry out of the job as possible.

Paideia is a new philosophy in elementary education that emphasizes interaction and open discussion, and makes full use of the Socratic method. To facilitate this active learning approach, the Cincinnati Public School District turned to architect McGill Smith Punshon for a thought-provoking design that would embody the best-you-can-be vision of their flagship “magnet” school that draws from all over the district. What they got was a simple architectural statement in the International style, made entirely of precast concrete

Precast Accelerates Construction Schedule

The new Roberts Paideia Academy started out as a steel frame brick and block school not unlike the aging facility it was replacing. However, as in other school projects on a deadline, the project team soon converted Roberts to precast cladding with thin brick facing, which would allow them to accelerate the construction schedule. Because the precast was made offsite while the foundation was laid, the switch saved weeks versus conventional block and brick.

Next came a budget challenge—the district’s funding couldn’t support the project as planned. So, the architect replaced the thin brick precast with an acid-etched precast facade in red and beige shades. Taking advantage of precast’s inherent plasticity, the design included horizontal and vertical reveals and articulation that streamlined the building and gave it a human scale.

See Cincinnati on page 2



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Letter from the President



Releasing Early Is a Strategy for Success.

The advantages of involving your precast sales representative early in your project have never been more evident than in today's hot construction environment. From site planning and logistics to panel design and finish choices, you need your precaster's input to get the best value from your construction dollar.

Of course, precast is made in a factory, meaning that you have the benefit of a high degree of quality control, durability, and schedule compression for your project. Consider that to make this happen at a competitive cost, factory schedules apply. In this way, precast is fundamentally different from other site-constructed products. Also, as you know, filling forms every day is how precasters pay the bills.

Although unforeseen events can cause delays for even the most reliable manufacturers, delays caused by weather typically do not have the impact they would with other building systems, such as cast-in-place. Delays that push start dates back, regardless of cause, can upset casting schedules with far-reaching consequences. It can happen that a precaster is in the uncomfortable position of asking a good customer to wait in order to make up time on another project. Or, that a customer who is delayed for good reasons just can't be rescheduled to meet even an adjusted timeline.

High Concrete is always investing to add capacity to better meet your needs. And, we are doing it again this year, adding capabilities in existing plants and at our new facility in Buena, N.J. to expand and improve scheduling flexibility. Still, the best approach when working with precast is to involve your technical sales representative early in the project. Let them help you save money and tell you where your project will fall in the casting schedule. And find ways to release the project as early as possible to ensure that your project team can meet the delivery dates you need.

As always, thank you for your business, and for making it all possible.

Cincinnati continued from page 1



A special reveal pattern was added to complement tiles in accent areas. The project comprises several mix and finish schemes, including brown with acid wash finish. Using these techniques, the team achieved cost savings without sacrificing finished appearance.

No More Steel and Masonry

To take tighter control of cost and schedule, the architect pushed to take as much steel and masonry out of the job as possible. The decision to use All-Precast in a school was a first for the firm as well as the district. In addition to reducing costs and potential delays between trades, the All-Precast approach allowed faster erection and superior interior flexibility to accommodate the many breakout rooms, debate rooms, and public speaking venues required by the unique Paideia curriculum.

The All-Precast approach made it easy to achieve fire ratings, eliminating detailing and time-consuming, costly application of fire-proofing. Also, All-Precast structures are thermally efficient and LEED® friendly. The thermal mass effect of concrete helps equalize HVAC operating demands, reducing energy consumption and increasing the comfort of students and staff.

Building from the Precast "Kit of Parts"

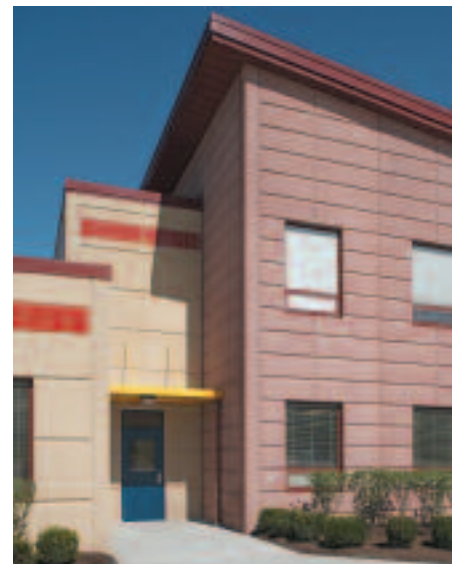
Any precast structure can be built from a "kit of parts" consisting of about a dozen types of components fabricated in standard and custom shapes and sizes that address a wide range of design requirements. In the Roberts All-Precast project, which High Concrete managed, structural members were subcontracted from Hollowcore Midwest Precast. The Roberts school gym is topped with precast double tees, as are the administrative offices. All of the flat roof areas utilized precast products (double tees or hollow core planks).



High Concrete supplied the load-bearing High Performance Wall Panels, with an energy-saving assembly R-value of 11. High Performance Walls are single- or multi-story panels that provide an integral structure and enclosure system that can be erected economically and efficiently. The panels are a sandwich construction

The design included horizontal and vertical reveals and articulation that streamlined the building and gave it a human scale.

with a center layer of insulating polystyrene designed to meet the requirements of any project, and can contribute up to 20 credits toward LEED certification. Many of the Roberts school panels were replicated to further control costs in the precast factory.



The exterior walls were composed of three different concrete mixes to achieve the correct red and beige shades. An octagonal music room was accented with a slightly darker shade of beige. Four kinds of acid-etch finish gave the building variety and depth.

On the school interior, 12' precast panels were subcontracted and used to create the appearance of finished drywall where ordinary block would typically be found. Precast stairs were also employed throughout the project, allowing immediate access to all levels during construction—which was much safer and efficient, and eliminated the cost of temporary stairs.

Projects in Progress ▶

■ Philadelphia, Pa.—Symphony House. Upper floors are being finished, expected completion in October, 2007.



Precast Planning Paves the Way to a Smoother Project

All the electrical conduits, outlet boxes, and mechanical openings for the Roberts school were cast into the insulated precast walls. This meant the project team had to bring the mechanical and electrical contractors into the project up to three months earlier than in block and steel construction. The result of this early planning was improved coordination among trades, and better communications. As evidence, the architect cites 160 total Requests For Information (RFIs) on the project, versus more than 300 RFIs for typical construction.



Bad Soil Delay Cleaned Up by Precast

The decision to use all-precast also proved wise when bad soils forced a change to Deep Foundation and Soil Stabilization at the beginning of construction. This delay was offset by the fast availability and quick erection time of the precast structural and architectural components, which brought the schedule back in line with adjusted expectations.

Construction was completed on schedule and in time for school to open in the spring of 2007, allowing the Paideia Academy to move into the new facility while other schools moved into the existing school building as swing space. High Concrete Group is proud to have played a key role in bringing the cost, schedule, and aesthetic advantages of All-Precast to this important project of the Cincinnati Public School District.

PRECAST NEWS

High Concrete Can Deliver Hollowcore and Stackwall Systems Without the Wait

When time is of the essence, High Concrete Group is your best choice for hollowcore plank and stackwall systems. High Concrete has just added a new hollowcore plant in Buena, N.J. Right now there's no backlog on orders for customers throughout the Mid-Atlantic.

Ideal for mid and high-rise dwellings, hollowcore and stackwall systems save time and money. They feature precast bearing walls which support hollowcore floor and roof planks while also serving as partition walls. Components go together quickly and easily while providing superior structural integrity. Exterior precast panels can be economically manufactured in a wide variety of colors, shapes, and textures. Installed interior bearing walls and floors are immediately ready for finishing.

Hollowcore plank is available from High Concrete in 8" and 12" thicknesses and 4' width, and is extruded at high densities to meet fire and acoustical ratings. Used as floors and roofs, hollowcore is appropriate for all-precast, stackwall, precast truss, masonry, steel framing, and modified steel framing construction types.

High Concrete is your single source for the highest quality precast concrete components, systems, service—and Concrete Innovations & Answers®. For more information contact Rob Poli at 1-800-PRECAST.



Projects in Progress ▶

■ Philadelphia, Pa.
St. Joseph University
Parking Garage



PRECAST NEWS

Two End Bay Designs that Improve Parking Safety, Visibility

Big end bays in parking garages allow cars to turn more easily, improve navigation and visibility, and increase safety. They allow for easier positioning of stair towers and handicap parking areas. Unique in the industry, High Concrete's 15'- and 16'-MEGA-Tees® permit bays of 45', 48', and 60' with fewer components and lower square foot cost than typical 36' bays.

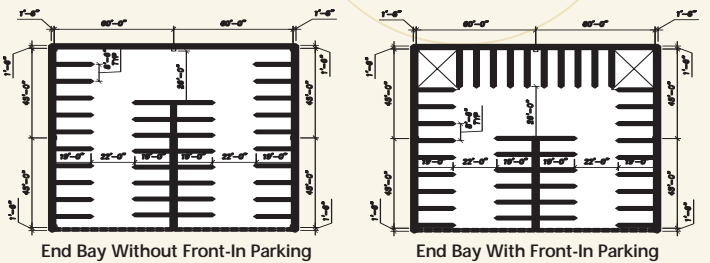
Precast decks require fewer columns than cast-in-place and allow similar or better light levels and fast erection.

Call your High Concrete representative at 1-800-PRECAST for design/layout assistance, or visit www.highconcrete.com.

High Concrete MEGA-Tees are transported on trucks using our patented lift system that eliminates the expense of escort vehicles.



How is a big end bay typically used? Here are two design configurations to consider:



Artful Ad Garners Architectural Record "Best in Show"

"The Art of Precast," a two-page, full-color display ad from High Concrete, won "Best-in-Show—Spread" during *Architectural Record* magazine's annual Excellence in Advertising event in May.

According to publisher Laura Viscusi, "Each year, *Architectural Record* assembles a jury of esteemed architects to judge and select advertisements they consider to be excellent. The prime considerations of the judges are design [and] messaging." High Concrete's placement was one of 33 winners including finalists and honorable mentions out of a field of approximately 250 contest entries.

The ad, published earlier this year, was part of a campaign to raise awareness and increase specification of precast concrete within the profession. Featured was the award-winning Rosenthal Center for Contemporary Arts in Cincinnati, Ohio, whose dramatic precast facade was supplied by High Concrete. Also recognized in the best spread category were Armstrong Ceiling Systems and Hunter Douglas Contract. Five other national and international building products firms won best single page ads, and 20 other ads and campaigns were also recognized. Specification Associates, a New Jersey-based niche-marketing communications firm operated by Peter Szego, AIA, produced the ads along with High Concrete's marketing department.

The official publication of the American Institute of Architects, *Architectural Record* is the most-read source of information for architects, the decision-makers who design and specify precast concrete. According to Gary Graziano, AIA, High Concrete Group's vice president of marketing,



"It's the second time in as many years that High Concrete has received this prestigious national award. Receiving the Industry's—and by default the profession's—top award for marketing communications was so beyond our expectations. The other manufacturers, all long-time winners of *Architectural Record* Advertising Awards, are legendary in the industry for their superb marketing communications and consistently outstanding graphics. And the other two recipients, the AIA and an architectural competition, are the target market. It's gratifying to successfully compete

for attention in the \$300 billion commercial and institutional construction market with many larger firms, and have our ads be so well-received by our target audience," said Graziano.

Look for High Concrete's award-winning national advertising in *Architectural Record*, *Architect*, *Structural Engineer*, *Parking*, *Concrete Products*, *Concrete Producer*, and *Ascent* magazines. If you would like a free subscription to *Ascent* magazine, the official publication of PCI, please call 1-800-PRECAST.

LEEDING THE WAY—THINKING GREEN

Ken Baur, P.E.—Director of Research and Development

Scoring LEED Points with Precast



If you're engaged in a project that may be submitted to the USGBC for LEED certification, or are motivated to achieve any sustainable design, consider precast's many contributions and take advantage of them. By using precast concrete, you can attain most and in some cases all the points you need for LEED Certification. If your project is truly "thinking green," you can use precast as your launch platform for silver, gold, or platinum LEED status.

As a sustainable material, concrete is an excellent choice for making better buildings. And because it's factory-made, precast concrete gives you the design freedom and predictable results you need in your project. At right are the major categories of LEED and the potential points a precast design can contribute when used as part of a sustainable design approach.

Note: the word "LEED" is an acronym for "Leadership in Energy and Environmental Design." It is a voluntary, market-driven building rating system based on existing proven technology. The higher one's rating, the more "green" one's building is. The system evaluates environmental performance from a whole building perspective over a building's life cycle, providing a definitive standard for what constitutes a "green building." The LEED system was designed by the USGBC, the U.S. Green Building Council, which represents all segments of the building industry. Find more information at www.usgbc.org.



LEED—New Construction Category		Potential Precast Points
Sustainable Sites, 14 points		5
Credit 5.1	Reduced Site Disturbance, Protect or Restore Open Space	1
Credit 5.2	Reduced Site Disturbance, Development Footprint	1
Credit 6.1	Stormwater Management, Rate or Quantity	1
Credit 7.1	Landscape & Exterior Design to Reduce Heat Islands, NonRoof	1
Credit 7.2	Landscape & Exterior Design to Reduce Heat Islands, Roof	1
Energy & Atmosphere, 17 points		Up to 10
Prerequisite 2	Minimum Energy Performance, Required for Certification	0
Credit 1	Optimize Energy Performance, 15 to 16% Savings	2–10
Materials & Resources, 13 points		10
Credit 1.1	Building Reuse—Maintain 75% of Existing Shell	1
Credit 1.2	Building Reuse—Maintain 100% of Existing Shell	1
Credit 2.1	Construction Waste Management, Divert 50%	1
Credit 2.2	Construction Waste Management, Divert 75%	1
Credit 3.1	Resource Reuse, Specify 5%	1
Credit 3.2	Resource Reuse, Specify 10%	1
Credit 4.1	Recycled Content, Specify 25%	1
Credit 4.2	Recycled Content, Specify 50%	1
Credit 5.1	Local/Regional Materials, 10% Manufactured Locally	1
Credit 5.2	Local/Regional Materials, 20% Manufactured Locally	1
Indoor Environmental Quality, 15 points		4
Credit 3.1	Construction IAQ Management Plan, During Construction	1
Credit 5	Indoor Chemical & Pollutant Source Control	1
Credit 7.1	Thermal Comfort, Comply with ASHRAE 55-1992	1
Credit 8.2	Daylight & Views, Views for 90% of Spaces	1
Indoor Environmental Quality, 15 points		4
Credit 1.1	Innovation in Design:	1
Credit 1.2	Innovation in Design:	1
Credit 1.3	Innovation in Design:	1
Credit 1.4	LEED Accredited Professional	1

Recent Project ▶

The Heldrich

Type of Building: Mixed-Use

Location: New Brunswick, N.J.

Architect of Record:

Culpepper, McAuliffe, Meaders, Inc. [CMMI], Atlanta, Ga.

Structural Engineer:

DiSimone Consulting, New York, N.Y.

Lead BC/CM Firm:

Keating Building Corporation, Philadelphia, Pa.

INNOVATIONS

Paul Ramsburg—Regional Quality Director

Concrete Innovations

Extending Concrete's Performance with SCC



Since the Bauhaus architects of the early 20th century, concrete buildings have been bulky gray rectangles. Self-Consolidating Concrete (SCC) is a recent innovation in admixtures that helps concrete break that stigma. This new technology allows for the casting of intricate and complicated shapes, as well as vibrant colors and varied textures.

The benefit of SCC is that in its plastic state it can flow through tightly spaced form configurations and around dense steel reinforcement. This allows casting of thinner, deeper and/or larger sections with greater speed and ease of construction. When executed correctly, it also improves surface characteristics by reducing entrapped air between the concrete and the mold surface. This means fewer and smaller "bug holes" or air voids in the surfaces so there's less patching and repairing in the precaster's yard and on the job site.

SCC allows casting of thinner, deeper and/or larger sections with greater speed and ease of construction

Though the flowability of SCC depends on admixtures, they alone cannot always attain the correct balance of the three key SCC attributes: stability, passing ability, and flowability. Obtaining an ideal SCC may require fine aggregates and other elements that do not always conform to conventional concrete standards. When formulating SCC mixtures, successful precasters evaluate all the elements of the mix design—cements, fine and coarse aggregates—as a combination and not as separate components. The elements of mix design can depend significantly on the capabilities of precaster's production facility, form quality, and end-use application. Mix performance needs to be evaluated as part of a thorough quality assurance program.

What's important to remember is that in its hardened state, SCC *is* concrete. It has the same strength and long term durability as conventional concrete proportioned with similar materials and water cement ratio. However, SCC can do more than conventional concrete, and look better while doing it.

SpeciFacts®

PCI Certification Expands to Erection

The Precast Prestressed Concrete Institute (PCI) has long encouraged specifiers to include PCI Certification in precast job specifications. The PCI Plant Certification Program includes 250+ precast plants, including PCI members and non-members alike. Owners, architects, engineers and contractors have always benefited from specifying PCI-certified plant products, because they pre-qualify bidders that have an ongoing quality system and the capability to produce superior product.

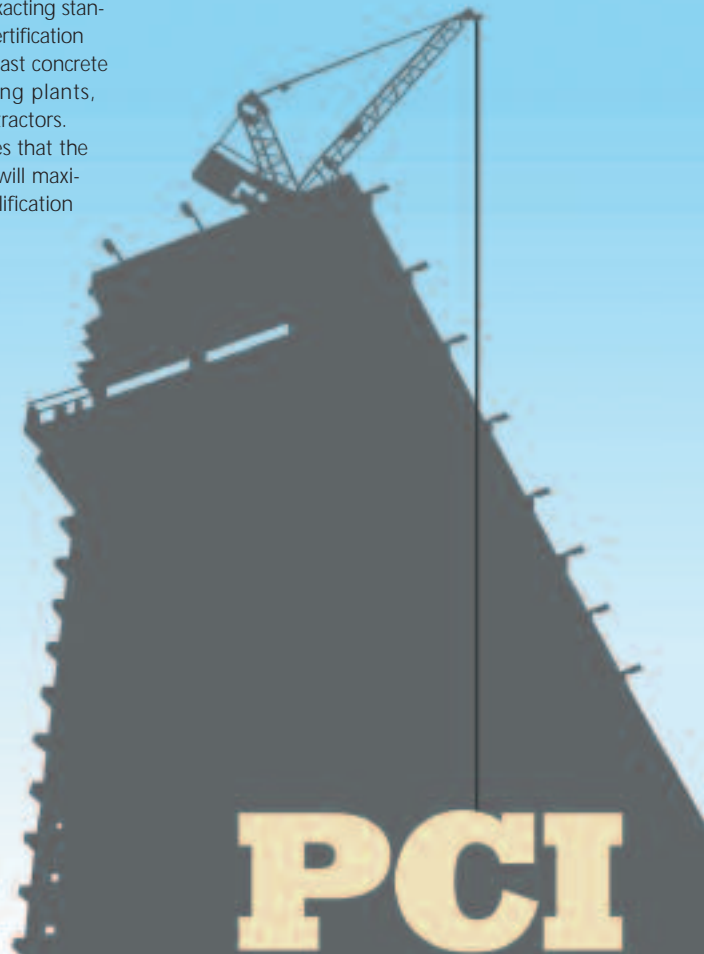
- All PCI member plants undergo two unannounced rigorous inspections annually. More than 120 areas are inspected by a completely independent auditing firm hired by PCI.
- PCI Certification also meets IBC requirements and eliminates the need for special inspections, saving direct costs such as those incurred with masonry construction.

Recently PCI introduced Erector Certification to assure designers, specifiers, and contractors that the high-quality components produced by PCI-Certified plants will be erected to the exacting standards of the precast industry. Erector Certification can be achieved by any erector of precast concrete products. This includes manufacturing plants, independent erectors and general contractors. PCI's Field Qualification Program assures that the erector can handle any challenge and will maximize the project's efficiency. Three qualification

categories exist: Simple Structural Systems, Complex Structural Systems, and Architectural Systems. Erectors express their specific capabilities by qualifying in one or more of these categories.

Certified erectors work to higher standards on the job site, and are typically able to erect the project with better speed and safety using techniques that carry less risk of damage or delay. These high standards reflect onto the designer and precaster, ensuring their continued close working relationship with certified professionals. As a member of PCI, High Concrete has obtained plant certification for all of its manufacturing facilities and in-house erection services. In addition, High Concrete gives preferential consideration to erectors who are PCI Certified. To assure the highest quality in your project from manufacturing through erection, specify PCI Certification for your precaster as well as your precast erector.

More information is available at www.pci.org/markets/certifications/qualified_erectors.cfm



A 250-room hotel and conference center, retail space, academic space, and luxury condominiums, The Heldrich features innovative lightweight architectural panels 10" thick CarbonCast® architectural panels that permitted dramatic reveals and articulation while preserving piece size and crane economics. Insulating EPS foam in the panels added R-value, and cost less than the concrete, so each additional inch of thickness cost only about half that of conventional precast. Transportation and erection costs were also reduced because panels were lighter and larger.



StructureCare™

StructureCare: Comparing Costs of Parking Deck Maintenance

In some areas of the country there is a belief that, because precast decks have more joints than cast-in-place decks, they must require more maintenance. The logic is simple enough: "Joints require maintenance, and precast decks have more joints, ergo..." However this argument goes, parking garage buyers seeking to control annual maintenance costs will do well to know the full story before deciding construction types.

In fact, many factors besides joints contribute to maintenance costs. It's true that precast double tee joint sealants need maintenance and replacement, and that in northern regions the joints on the top level may be subject to plow damage. But added together these costs are small compared with that of maintaining a poorly constructed cast-in-place deck.

Through our StructureCare division, High Concrete provides maintenance services for both precast and cast-in-place parking decks. In our experience, even good quality cast-in-place construction does not match the durability of good

quality precast. The fundamental issues are the strength of concrete used and the way in which it is installed.

Often, decks that are cast on the job site are subject to uncontrolled variables in concrete supply and mix design, inconsistent methods, weather that changes curing and may delay construction, transient labor, unregulated labor skills, etc. These variables may contribute to poor quality construction characterized by generally lower strength concrete with inconsistent strength, reinforcement that's too close to the surface, ponding and draining issues, and inconsistent surfaces. Maintenance of these decks is much more expensive, because with only a few years owners may have to factor in repairs to spalls, cracks, and matrix breakdown caused by corrosion of reinforcement and mechanical wear of lower strength, more permeable field cast concrete.


Precast decks perform better over time because precast concrete is factory-made in a controlled environment. Precasters use consistent mixes that produce high strength concrete that is less permeable to chlorides. To further insure consistency and high quality, good precasters are certified by the PCI through independent random audits. PCI certification is now also available for precast installers to assure that the components are assembled correctly in the field.



News from AltusGroup™

CarbonCast Availability Expands through Three New Producer Members

Long-established precast concrete manufacturers Enterprise Precast Concrete, Inc., Wells Concrete Products, and Gage Brothers Concrete Products, Inc., have joined AltusGroup™ Inc. (www.altusprecast.com) as Producer Members. All will offer innovative CarbonCast® (www.carboncast.com) precast products in the Midwestern states that surround their respective plants. Their addition brings to 13 the number of precasters in AltusGroup.

 Enterprise, of Omaha, Neb., is one of the nation's premier providers of high-quality architectural precast products for building exteriors. Enterprise will be licensed to produce CarbonCast Architectural Cladding Panels from its 20,000 square foot facility in Omaha.



Wells, located in Wells, Minn., has delivered high quality precast/prestressed structural and architectural products for buildings, bridges, stadiums or parking ramps for more than 50 years. Wells will manufacture CarbonCast High Performance Insulated Wall Panels from its plant in Wells.

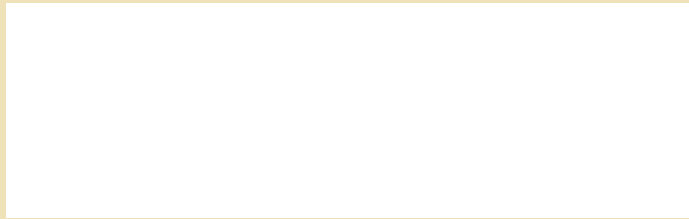
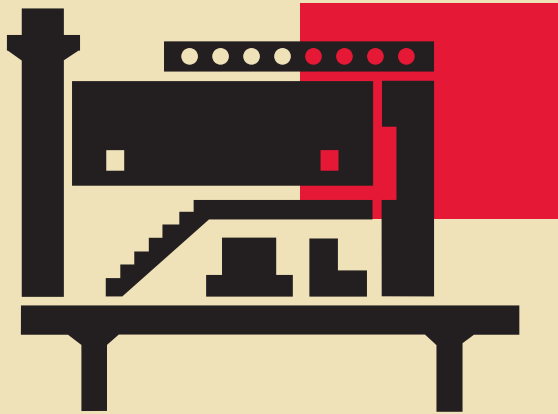


Gage Brothers, a Sioux Falls, S.D. precaster, is a fourth-generation business and a leading pre-caster in the north central plains. For more than six decades, Gage has engineered and manufactured structural and architectural precast products. Gage will offer CarbonCast Architectural Cladding Panels from its Sioux Falls facility.

"Enterprise, Wells, and Gage have outstanding facilities, resources and reputations", said John Carson, chairman of the AltusGroup marketing committee. He said both firms seek a high level of customer engagement including design and engineering support.

"These three companies perfectly fit the AltusGroup mold as progressive, innovative, and responsive precasters," said Carson, who is also business development for TechFab, LLC, AltusGroup's carbon fiber grid supplier. "Their outstanding technical ability will enable them to bring CarbonCast technology to their respective markets quickly and promote its extensive benefits."

PCI Certified Precasters



What Do You Know About Precast Concrete?

Take the concrete quiz and win! See card inside this issue.

New Box Lunch Program! CALL 1-800-PRECAST

- **Architectural Precast and Control of Cost and Quality.**
Lock in this one-hour AIA CEU box lunch with HSW credit for your staff by signing up today.
- **Plant tours and full day Concrete Innovations and Answers® seminars.**
Concentrated learning with a full day of AIA CEU training with HSW credit.
- **Concrete Innovations and Answers® Newsletter Subscriptions.**
If you know someone who should receive this newsletter, sign them up.

See us in the 2006 Sweets Catalog 035400/HIG



CONCRETE ANSWERS

Ken Baur, P.E.—Director of Research and Development



CarbonCast® Benefits Outperform ACI 362

Recently the ACI Technical Committee decided to require sealants on all concrete parking decks to protect against possible corrosion due to chloride permeation of concrete. This decision will be reflected in ACI 362, part of the new standards ACI will release this fall.

ACI's new provision makes sense for many parking decks, and will contribute to the longevity of some. The reason is that the steel-reinforced double tee flange is in the "corrosion zone," the area most likely to be affected by chloride-laden water. In regions that get snow, these components are exposed to chlorides from cars that bring it in from treated roads. Decks near oceans and salt water bays are also vulnerable to chloride permeation. Chlorides, of course, can cause corrosion of steel reinforcement in concrete, leading to expensive repairs and ultimately shortening the life of the parking deck.

The high density concrete of precast parking decks normally protects reinforcing steel from the effects of chlorides as long as the decks are properly maintained. By requiring sealants of precast decks right along with cast-in-place structures, ACI 362 goes further to assure that precast decks will last longer by adding a new layer of protection. Since proper maintenance can be an issue for many owners and operators,

CarbonCast components are not affected by chloride-laden water, because carbon fiber doesn't corrode.

ACI 362 can be a prudent added initial expense. It will also add cost in the future, as the sealant will eventually have to be renewed.

However, the committee did not consider some of the innovative new materials that are being used in new construction and repair. One of these is CarbonCast®, which uses carbon fiber C-GRID® to take the place of secondary

steel reinforcing in double tees, cladding, high performance walls, and other applications.

CarbonCast components are not affected by chloride-laden water, because carbon fiber doesn't corrode. In double tees, carbon fiber mesh replaces steel mesh secondary reinforcing completely. Proper maintenance recommendations should still be followed, but carbon fiber eliminates the biggest corrosion threat to the parking deck. All-stainless steel tee-to-tee connections eliminate rust-prone carbon steel from the corrosion zone. Adding sealant to CarbonCast double tees is like buying expensive insurance you don't need with no possibility of payout.

Though ACI missed CarbonCast's advantages against corrosion, there are still more reasons for you to choose CarbonCast double tees, including lighter weight for lower superstructure costs and greater durability from carbon fiber's higher tensile strength. Regardless of the new standard, CarbonCast double tees are a wise choice for your next parking deck project.

Test Your Precast Knowledge with...

The Concrete Quiz

Random Drawing for One PCI Design Handbook, 6th Edition ►
(\$260 value)

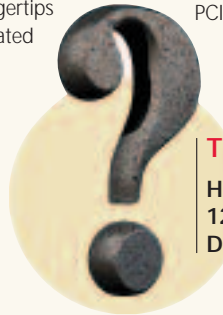
Drawing held December 7, 2007

Recent changes in the building codes and standards issued by ASCE, ACI, and IBC are the most significant in 40 years, according to some code experts. Practicing structural engineers and architects must keep up with these changes. The Sixth Edition of the PCI Design Handbook (MNL-120-04) on precast and prestressed concrete provides easy-to-follow design procedures, newly formatted numerical examples, and both new and updated design aids using ASCE 7-02, ACI 318-02, the third edition of the AISC steel manual, and IBC 2003. Every designer needs to have this indispensable publication at their fingertips for quick reference. The Sixth Edition also includes new and updated information on:

- 15 Foot Wide Double Tee Load Tables
- Seismic Design
- Torsion and Shear Design
- Load and Resistance Factors
- Headed Stud Connection Design
- Fire Resistance
- and so much more!



Also included at no additional charge is a CD version of the entire Handbook including many of the referenced PCI publications as well as the Background and Discussion of the PCI Design Handbook, Sixth Edition reprinted from the PCI JOURNAL. Nearly 750 pages.



The Concrete Quiz

High Concrete Group LLC
125 Denver Road
Denver, PA 17517

Please answer the questions below, tear along the perforated dotted line and drop in the mail. No postage necessary. Official Concrete Quiz Contest rules on the back.

Correct Answers Win Right Away!

Answer all questions correctly and receive a High Concrete double wall tumbler. You will be automatically entered in the random drawing.

Circle the best answer for each of the following questions. Answers must be postmarked by Sept. 28, 2007.

1. In CarbonCast precast concrete, C-GRID carbon fiber epoxy grid replaces what concrete reinforcement?

- A. Steel strand
- B. Rebar
- C. Mild steel mesh
- D. Stone

2. A key to successful design of self-consolidating concrete mixes is:

- A. Evaluate elements as a combination
- B. Premium fine and coarse aggregate
- C. High dosage pigment
- D. Multiple mixes

3. How many points are required for a rating of Certified in the LEED for New Construction system?

- A. 23-25 points
- B. 26-32 points
- C. 33-38 points
- D. 39-51 points

4. Hollowcore planks are an economical choice for floors and ceilings. High Concrete Group manufactures hollowcore in the following standard thickness(es):

- A. 6", 8", 10", 12"
- B. 10" only
- C. 8" and 12"
- D. 12" only

5. Cincinnati's first all-precast school is notable for its:

- A. Traditional facade
- B. High performance wall panels
- C. Precast truss
- D. Block and brick facade

Please complete:

Name _____

Company _____

Street _____

City _____ State _____ Zip _____

Telephone _____ Fax _____

Email _____

My function (choose the one that best describes you):

- Architect Engineer General Contractor Owner Student Educator Other

Concrete Quiz Contest Rules

Architects, engineers, contractors, consultants, and others in the construction industry resident throughout the United States and Canada are eligible to enter The Concrete Quiz. Entries must be postmarked by Sept. 28, 2007. Only one entry per contestant will be considered. Answers will be posted in the fall issue of Concrete Innovations and Answers newsletter. All five questions must be answered with the best answer to receive the prize of a High Concrete double wall tumbler. Any quiz submitted with all correct answers will be automatically entered in the random drawing for PCI Design Handbook, Precast and Prestressed Concrete 6th Edition valued at \$260 value. One winner of the random drawing will be chosen by an independent judge on December 7, 2007. High Concrete will ship prizes free of charge by ground service to any continental US destination; shipping charges may apply outside the continental United States. Winner assumes responsibility for any and all applicable taxes, fees, duties, or tariffs. By entering the contest, all participants permit High Concrete to use winners' names and images in its promotional literature and website without further compensation. If winner cannot be contacted to acknowledge acceptance of the prize within three (3) business days, or refuses the prize for any reason, High Concrete reserves the right to select an alternate winner from the correctly answered cards received. Winner will be announced by December 21st, 2007. The Concrete Quiz is owned by High Concrete Group LLC and is not open to employees of any of the High Companies, the High Concrete Group, its affiliates or vendors, or employees of any other precast concrete manufacturer and their affiliates, or vendors.



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES



BUSINESS REPLY MAIL
FIRST-CLASS MAIL F.P.O. LANCASTER PA

POSTAGE WILL BE PAID BY ADDRESSEE

The Concrete Quiz
High Concrete Group LLC
125 Denver Road
Denver, PA 17517