



CONCRETE

INNOVATIONS & ANSWERS

News from The High Concrete Group Companies

Issue number 4



Breakthrough Wall Sets New Standard

altusgroup

AltusGroup™ Announces New Members

Gate Precast joins AltusGroup, Inc. as a Senior Member with six plants in the Southeast and Midwest. Heldenfels Enterprises, Texas, joins as an Associate Member. AltusGroup's founding members are Oldcastle Precast, High Concrete Group, Metromont Corporation and TechFab, LLC. AltusGroup is the first-ever national partnership of precast companies and was founded to develop and market precast innovations such as the breakthrough CarbonCast™ line of products. For more information call 1-866-GO-ALTUS or visit us online at www.altusprecast.com.

Many important issues faced the design/construction team of the new Woodward Career Technical High School.

A key role in resolving each of the above issues was played by High Concrete Technology's (HCT) high performance insulated precast wall system. Here's how...

Why the Wall was Selected

HCT's pre-fabricated High Performance Wall met Turner/DAG/TYS's stringent enclosure budget. Messer Construction, the General Contractor, avoided inevitable schedule delays (which winter hand-laid block/brick wall construction would have caused) by utilizing HCT's all-weather structural precast, load bearing exterior walls (consisting of over 520 pieces and 94,000 sq ft of precast), and erecting them in conjunction with the interior steel framework—right through a cold Cincinnati winter!

Further, the unsurpassed energy efficiency of High Concrete Technology's High Performance Insulated Wall System (which combines edge-to-edge, uninterrupted extruded polystyrene insulation with the energy storing thermal mass effect of the inner concrete wythe) yielded a performance R value of almost 20! That means the Cincinnati Public School System should save important energy dollars throughout the school's life.

What's more, low absorptive in-laid thin brick is a typical feature of the High Performance Insulated Wall System. Thin brick offered Steed/Hammond/Paul wide ranging brick color and texture options. Once

thin brick becomes a part of the wall, it looks just like hand-laid, full bed depth brick. Yet it performs much better because thin brick's absorption rate typically is 3% or less, versus 8–13% absorption rate for most hand-laid, full bed depth brick. Also, instead of using costly limestone facing on hand-laid block, HCT substituted a tan colored architectural mix with an acid etched finish, replicating limestone at a fraction of the cost. Bottom line—by selecting precast, the architect and owner could afford exactly the look they wanted!

How the High Performance Wall Application Evolved

HCT (formerly Concrete Technology, Inc.) met very early with Steed/Hammond/Paul and Turner/DAG/TYS to present the breakthrough High Performance Wall's many benefits (over hand-laid block & brick insulated cavity wall).

HCT worked closely with Steed/Hammond/Paul during the entire design process, providing design detailing and further budget assistance to Steed/Hammond/Paul and the structural engineer, Graham Obermeyer. The project's precast package was distributed for competitive bidding, and HCT became the successful low bidder.

Construction is in the latter stages, and the project remains within budget. HCT is proud to play a key role in controlling the cost of this high profile school project.

CALL HIGH CONCRETE TECHNOLOGY
(1.800.PRECAST) TO LEARN MORE.



Ohio State University Stadium—2 phases

Location:
Columbus, OH
Architect & Engineer:
The Osborn Engineering Company
Construction Manager:
Turner Construction Company
Contractor:
Kokosing Construction Company



University of Montclair Station Garage

Location:
Montclair, NJ
Architect:
Clark Caton Hintz
Engineer:
Fay, Spofford & Thorndike
General Contractor:
Prismatic Development Corporation

PRECAST NEWS

HCT PROJECT PROFILE



At High we think that concrete is the best choice for most structural and exterior applications. Our bias is based on its inherent performance characteristics: natural fire resistance—an “insurance policy” against faulty sprinklers or missing fire insulation; durable surfaces that reduce maintenance and resist mold-inducing water penetration; mass that creates thermal lag to reduce energy use; and, acoustic properties that help keep noise out.

High’s precast wall products produced at dedicated panel plants in Paxton, IL; Springboro, OH; and Lebanon, PA also have additional and important quality features that can help you achieve program objectives:

1. Our concrete is cast in a controlled indoor environment immediately after batching so it doesn’t sit in a mixer truck for hours and it’s not placed during unfavorable weather conditions. These factors significantly affect its quality, appearance, strength, permeability and durability. We also use self-compacting concrete (SCC) to reduce “bug holes.”
2. We cast walls with insulation sandwiched inside, not glued to the interior face, for a prefinished, durable wall that prevents the insulation from damage or catching on fire.
3. Our CarbonCast™ panels, made with C-GRID™ epoxy-coated carbon fiber shear trusses, offer superior insulating performance. They do not have “cold spots” where energy can be lost or mold-inducing condensation can occur. To prove this, we have “thermo graphic imaging” showing where walls lose energy. Additionally, the “thermal mass effect” can double the effective R-value of a wall to save energy and provide a more comfortable interior environment.
4. We can provide a wide array of panel colors and finishes including: cast-in details; thin brick; stone veneers; and, multi-color or textured faces for a decorative, permanent finish that never needs painting.

We’d like to help you show your clients how High Performance Thermal Walls can bring projects in on scope, on time and on budget! Call us at 1.800.PRECAST to learn how.

Best Regards,

Tom McEvoy
President

High Concrete Innovations

Recently, we added High Concrete Innovations, LLC (HCIN), located in Lebanon, PA to the list of High Concrete Group companies. HCIN joins High Concrete Structures, Inc. (HCSI) of Denver, PA and High Concrete Technology, LLC (HCT) of Springboro OH as a provider of high-quality architectural and wall panels—including our new line of lightweight, insulating CarbonCast™ products.

We’re excited about High Concrete Innovations because it is a facility like no other in our group. At HCIN everything—from aggregate storage and batching to finished product storage—is inside and protected from the weather so that we can deliver

the highest quality precast possible. Additionally, HCIN serves as High Concrete Group’s R&D center—where we develop and test the concrete innovations that give you the answers you need to deliver projects on scope, on time and on budget.

Although HCIN is new to the High Concrete Group, when you buy products from HCIN you will still see the same familiar faces in sales, engineering and project management that you are used to working with at HCSI—because these resources are shared across the companies in our group.

Please feel free to call 1-800-PRECAST if you’d like to talk about how our new capabilities can help you.

High Concrete Aids in Fire Company Training

High Concrete Structures, Inc. has always been a strong advocate for safety at its plant and on the jobsite. In fact, the company’s safety track record has been so good that in 2003, High Concrete was awarded the prestigious Governor’s Award for Safety Excellence. So, when the Lancaster County Fireman’s Association opened its new training facility to help keep fire fighters and the community safer, High Concrete was there. The Fireman’s Association asked High Concrete to provide precast sections for their training school, which would help to keep fire fighters and the community safer. The new fire school was begun in response to additional certification made necessary after 9-11 to satisfy requirements of the Department of Homeland Security. High Concrete sent

the fire school double tees, wall panels, large concrete blocks, and a variety of miscellaneous precast concrete pieces valued at tens of thousands of dollars.

In working with local fire safety organizations, High Concrete has gained a variety of unexpected rewards, in addition to the satisfaction of helping out the community. The Fireman’s Association has offered training and the use of their training facility to High Concrete to help the company in its efforts to further improve safety. The Association will also provide onsite fire extinguisher training to all High Concrete employees. And being good to the community has proven to be a good business decision—the company no longer has the expense of disposing of surplus concrete pieces, such as samples, mock-ups or R&D panels.

Fall Seminar Agenda

■ October 6	8:00 a.m.–8:30 a.m.	Registration and continental breakfast	
High Concrete Technology	8:30 a.m.–9:30 a.m.	History of Parking Garages	1.0 LU.
100 Technology Lane	9:30 a.m.–10:30 a.m.	TBD	1.0 LU.
Paxton, IL	10:30 a.m.–10:45 a.m.	Break	
■ October 12	10:45 a.m.–12:15 p.m.	Precast Parking Structures Design & Construction	1.5 LU.’s
High Concrete Technology	12:15 p.m.–1:45 p.m.	Lunch & Plant Tour	1.0 LU.
95 Mound Park Drive	1:45 p.m.–3:15 p.m.	Architectural Precast High Performance Wall System	1.5 LU.’s
Springboro, OH	3:15 p.m.–3:30 p.m.	Break	
■ November 3	3:30 p.m.–4:30 p.m.	Carbon Fiber Reinforced Precast Concrete	1.0 LU.
Holiday Inn	4:30 p.m.–5:30 p.m.	Structural Strengthening with Composites	1.0 LU.
1 Denver Road	5:30 p.m.–6:30 p.m.	Reception	
Denver, PA			8.0 LU.’s



UC Varsity Village Athletic Center

Location: Cincinnati, OH
Architect: Glaserworks
Engineer: THP Limited
Construction Manager: Turner Construction Company



BARTA Transit Parking Garage

Location: Reading, PA
Architect & Engineer: Timothy Haahs & Associates
Construction Manager: Reynolds Construction Management
Owner: Berks Area Reading Transportation Authority

MARKETING AND INNOVATION

Gary Graziano, AIA—Vice President of Marketing



High Concrete Innovations, LLC Delivers Environmentally-Friendly Industry Firsts

At High, our goal is to add value without adding cost by providing the “concrete innovations and answers”™ you need to accomplish your projects on scope, on time and on budget. Toward this end we’re introducing two new environmentally-friendly innovations that can change the face of precast.

Our first innovation, borrowed from a sister company, High Steel Structures, Inc.—the nation’s largest steel bridge fabricator, uses recyclable steel shot instead of a single-use sand medium for blast-finished products. Recycled steel shot—which is also made from post-consumer waste, can be used up to 1000 times before it is disposed of.

Steel shot media have been used for decades to remove surface oils and rust from steel before it is painted, and for cleaning and finishing in hundreds of other industrial applications. When used on concrete, steel shot blends mottled form finishes and exposes aggregates just like sand, to provide the contrasting

textures and colors that enable the subtle or dramatic architectural expressions possible only with precast.

Our second innovation involves a proprietary fiber reinforcing material reclaimed from post-consumer waste. This patent-pending loose fiber is thoroughly dispersed using our new variable speed mixer. The fibers help reduce micro-cracking during curing, and like slag, they reduce the amount of cement needed to make concrete. Adding fibers to the mix also improves performance by increasing both early and 28-day strength so that these fiber-reinforced products will be even more durable than ordinary concrete.

Choosing an Architectural Photographer

A key component of marketing in the construction industry is having good photography to illustrate what you can do. So, choosing the right photographer is very important. Brad Feinknopf, one of PDN’s (Photo District News) top 50 featured photographers in the U.S., and the photographer for High Concrete Technology’s COSI project, makes a few recommendations

on how to choose a photographer to meet your needs.

Know what you’re looking for. Often your needs for award entries are different than what you might need for an ad or brochure. Be ready to discuss your expectations.

Research photographers to find the one(s) whose strengths match your needs. Architectural photographers can specialize in shooting everything

from interior design to industrial locations to aerial projects and everything in between.

Never underestimate the value of compatibility. Take time to make sure the photographer you choose is someone you can work with, because you’re developing a relationship that will help build your business for years to come.

For more information on Feinknopf Studio, visit www.feinknopf.com.

STRUCTURECARE

Franc Genoese—Sr. Director of Project Management



In recent issues of the StructureCare™ column of our newsletter, you may recall key words like “preserving value,” “hassle free ownership,” “cost effective maintenance” and “maintenance predictability.” These are all very possible for today’s garage owners if you plan for routine maintenance throughout the life of the structure.

Periodic maintenance and inspection of your garage, like the need for exercise, eating right and routine health exams, insure that vital systems are functioning as they should. Deterioration in the structural and waterproofing systems, most often caused by improper snow and ice management, inadequate cleaning and maintenance, and ignoring small signs of distress, can lead to serious and expensive structural repairs. It’s not uncommon for

owners to learn about the cost of such repairs at the worst possible moment. However, these surprises can be averted if proper preventive maintenance is planned and budgeted.

In the life of a parking structure, owners/operators should plan for periodic routine services, which include some of the tasks that we’ve discussed in previous articles like power-washing the deck, servicing the various electrical and mechanical systems, and routinely inspecting the structural elements. Equally important is planning for maintenance and replacement of the waterproofing systems, line striping, and anything else with a shorter lifespan than the structure. When done properly, an owner can save a lot of money over the life of a garage.

Greg Neiderer of Walker Parking Consultants suggests that the difference in cost between a

poorly maintained garage and a well maintained garage could be as much as 300–400% when you consider the cost of necessary repairs. He also says that repairs for a poorly maintained garage can cost as much as 30% of the market value of the structure.

Not all garages are alike. So, in order to prepare an appropriate budget for maintenance and repairs, consider the location, structure type, age and usage. The budget should anticipate the annual expenses for specific daily, weekly, monthly, and semi-annual services, and also accrue money for the replacement systems that will be necessary about every 7–12 years. Our StructureCare™ team can assist you with the information you need in developing your budget, so that you too can enjoy low cost maintenance, predictability, and peace of mind.



PCI-Certified Precasters

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See us in the 2005
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Fall Innovations & Answers seminars.
Act NOW to reserve your space!

CONCRETE ANSWERS

CarbonCast™ High Performance Insulated Wall Panels Cost effective. Structurally superior. Environmentally friendly.

Dave Schneider—PE, Senior Director of Engineering



Improving a Proven Technology

We've taken a proven technology—precast concrete insulated wall panels—and replaced thermally inefficient wythe connectors with C-GRID™ carbon fiber trusses to deliver unprecedented thermal efficiency and full structural composite action. Composite panels behave as if constructed entirely of concrete instead of two independent slender wythes. CarbonCast walls also stay dry because moisture does not penetrate the concrete and they have no cavities where air and water can combine to cause mold

growth. Additionally, CarbonCast walls contribute up to 20 points toward LEED certification.

100% Structurally Composite Action. 0% Worries.

Composite action allows lighter weight, and thinner or more highly insulated CarbonCast panels—often at a lower cost than precast, EIFS and cavity wall alternatives, even though they reduce energy use, increase usable floor area, and improve occupant comfort in ways other products can't.

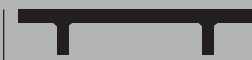
Thermally efficient, structurally composite sandwich panels with thin wythes require a non-metallic connection, such as C-GRID, that needs little embedment and transfers 100% of the shear force between the inner and outer wythes of panel edges

and ends so that when it deflects, both wythes act together. Non-corrosive, low thermal conductivity, 1mm-thick, epoxy resin-coated C-GRID connections embed in as little as 1/2" of concrete, have tensile strengths up to 550 KSI (7x steel reinforcing), and allow an uninterrupted layer of rigid foam between panel wythes to deliver the full R value of insulation (e.g., R-8 to R-32). This kind of performance increases occupant comfort, preserves the value of stored products, and reduces operating costs.

Load-bearing and nonstructural wall panels 6"-12" thick can be 50' or more tall, while 6"-8" thick nonstructural horizontal panels—for pre-engineered steel buildings—can be up to 14' tall while spanning up to 40'.

Want to Know More?

Call Gary Reed at 1.800.PRECAST or send an e-mail to concrete.answers@high.net.



MEGA-Tee



Spandrel



Wall Panel



Girder



Column



Stairs, slabs and accessories