

Precast Press

Quarterly Newsletter for the Mid-Atlantic Precast Association

Fall, 2001



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SANDWICH PANELS SATISFIED THE NEED

for Michel Distribution to meet a tight deadline for its new 650,000-square foot distribution center in Aberdeen, MD. The facility receives daily deliveries from a consumer-goods company and breaks them down for transport to retail stores. The company required fast turnaround and with winter approaching, the designers knew that precast panels offered the best option.

"The schedule was the driving factor," explains Jeff Harbold, project coordinator for architect LSC Design, Inc. of York, PA. In fact, the facility sits adjacent to a center built with tilt-up concrete panels, adds Project Manager Jan Wagner with general contractor Kinsley Construction, also of York, PA. "The weather changed the design" he says. "We felt we could certainly guarantee the new schedule with precast, since we could essentially take the weather out of consideration."

"The 9-inch insulated, load-bearing panels also met Maryland's requirements for energy efficiency with no added finishing," Harbold notes. The adjacent tilt-up structure, though, had to be lined with insulation after erection to obtain the needed R-value, which slowed its completion.

The insulated sandwich panels were produced by **Nitterhouse Concrete Products, Inc.** and incorporated a number of delivery bay doors which further enhanced the construction efficiency, says Wagner. Although more than 100 doors were provided, additional knockouts were cast in the panels



to allow for future expansion. Construction was sped up by using load-bearing panels; thereby eliminating the need for perimeter columns. That also made interior space more efficient, giving the owners an added benefit.



Membership

Please welcome the following new associate member to MAPA:

Advanced Engineering Sciences, Inc.
AESI provides engineering services from two locations in Hagerstown, MD and Martinsburg, WV.

For a complete member listing, contact MAPA for a 2001 Directory or visit our web page www.mapaprecast.org

Quotables

“Life is just a mirror, and what you see out there, you must first see inside of you.”
-Wally “Famous” Amos

“When you want to test the depth of a stream, don’t use both feet.”
-- Chinese Proverb”

“It has long been an axiom of mine that the little things are infinitely the most important.”
---Sir Arthur Conan Doyle

KUDOS

Several MAPA members were recognized at the PCI Convention in Reno, NV. **High Concrete Structures** celebrated their 25th anniversary of PCI Certification.

Splice Sleeve North America was granted the Associate Member Award. Ned Cleland of **Blue Ridge Design** became a PCI Fellow.

Ted Coons of **Spillman Company** was also recognized as a fellow.

Dino Scalia of the **Shockey Precast Group** was recognized posthumously for his nearly 25 years of contribution to the industry.

School Notes

Nearly 100 college undergrads participated in MAPA Student Day held on September 17th. We intend this open house to be a yearly event. While the terrorist attacks kept many from attending, if you are still interested in setting up a plant tour for your group, we will be happy to oblige. Please contact MAPA for the closest manufacturer.



Other campus notes: congratulations to Dr. Carin Roberts-Wollman of Virginia Tech who was awarded a PCI fellowship for research entitled: “Horizontal Shear Connections for Full-Width, Full-Depth Precast Concrete Deck Panels”.



Going nowhere with your concrete canoe? PCI is again hosting The “Big Beam Contest”. This design competition for engineering students involves creating a precast concrete beam at least 14-foot long! Contact MAPA for the rules and regs.



Director's Chair



It is with much sadness that I reflect on the tragedy that has enveloped us these last few months. In addition to our colleagues in New York City and Washington, DC we have also suffered additional, personal loss right here at MAPA. Our good friends, Larry Shoemaker (Nitterhouse Concrete Products) and Dino Scalia (Shockey Precast Group) passed away. Both were in their early 50's and taken from us much too soon.

Larry was the sales manager at Nitterhouse for the past ten years and served as president of MAPA. He was a highly respected individual in the precast concrete industry for more than two decades. Larry was actively involved in his community and was well known for his volunteer work, especially the Shriner's Children's Hospitals. He will be sadly missed by his family and friends and all who knew him.

Dino worked for The Shockey Precast Group for nearly 25 years and was actively involved in PCI committee work. He contributed an enormous amount of time and effort to improve the quality of the precast industry, helping his fellow workers and doing volunteer services. He will also be missed by his PCI colleagues and his many friends and family.

THE PARKING SPACE: APPEARANCE COUNTS

The way a parking structure looks to the end user and community is just as important as its functionality, durability, security and layout. The parking facility is usually your first impression of a complex --appearance counts! Whether designing to match an existing finish, or to capture a distinctive look, a limitless array of finishes, colors and textures with consistent quality and durability make precast concrete your obvious choice.

Precast colors can be achieved in many ways.

- Sand.
- Aggregate.
- Cement.
- Pigment.

Sand and stone are the most common ways to design a color scheme. Aggregates for many different areas can allow the precast to produce colors with a "natural look" obtaining the same tones and shading you would find in the earth. Precasters also have the availability of using gray and white cement to offset or enhance aggregate colors. Dyes or pigments are another method used to obtain a specific color or tint. Finally, other products maybe be cast into the exterior of the precast

for a desired look. Thin set brick, tile, or stone are laid in the face of the form, usually in a formliner, prior to the placement of concrete.

Texture is another important component in achieving a desired look and can be achieved by several methods. When concrete is removed from the form it has a very smooth, glass-like finish. Frequently,



aggregate without scratching or dulling the stone.



Custom forms are an option frequently used to obtain a desired architectural effect. Most forming techniques utilize reveals and joint patterns. This allows architect to design distinctive lines, framing effects and shadows that are cost effective and pleasing to the eye. More elaborate designs can be obtained through form liners. A wide range of options from stone, wood, fractured finishes to artwork, lettering and emblems are available through the use of form liners.

the desired look requires taking the outside surface off of this formed side.

One method used is acid washing which removes the glassy finish and exposes only a minimal amount of aggregate. A second method is sand blasting, which can vary from light to heavy depth. The third and most common method of exposing aggregate is through the use of chemical retarders. Most often, chemical retarders are used to expose large portions of

Architectural precast is cast in a controlled environment guided by PCI standards and will never need painting nor refinishing throughout its many years of service.

Would you like to learn more about precast/prestressed parking structures? Call MAPA at 800-453-4447 or find a parking space at our web page: www.mapaprecast.org.
email: info@mapaprecast.org.



FAQ: Thin Brick

The interest in brick clad precast panels is steadily increasing among owners, architects and engineers. The following article addresses many of the questions that arise regarding the combination of precast concrete and clay faced products.

What is it? Thin brick inlay is a means of integrally casting thin brick into precast panels. A variety of patterns can be achieved including running bond, soldier course, stacked bond, basket weave and herringbone. The brick inlay can be combined with other profiles, such as stone patterns or accent bands, to create precast panels with unique characteristics.

How does it work? Thin brick inlay can be achieved by two methods. The first is a reusable elastomeric gasket liner. It is a urethane grid system, which can be made to architectural specifications producing a raked joint, and is cost effective for repetitive precast panels. The second method is a brick snap system. These thin bricks are packaged in individual plastic carriers which snap together on the casting surface. It is a single-use system that produces a tooled joint and offers versatility where panel or pattern changes are frequent. The key to casting brick in precast panels is the manufacturing tolerance of the brick. The brick is ground to a tolerance of +0", -1/16". The gasket liner has a tolerance of +/- 1/32". The brick face is wax coated to facilitate cleaning with just high pressure water. No acid washing is needed.

What are the benefits? Thin brick is actually a tile. Thin brick is harder and denser than conventional brick and is therefore less susceptible to deterioration from airborne contaminants and freeze/thaw. In addition, thin brick tile is less susceptible to efflorescence. Other benefits are exact uniform joints and the brick is locked in by high-strength concrete,

not mortar. There are no cold joints. Thin brick weighs about one-sixth that of a full size brick so the facade is lighter in weight. Erection and placement are not subject to weather conditions. Setting brick in the precast plant also eliminates the need for scaffolding, which can be critical for an urban project or a tight site. Finally, the declining number of qualified masons available in the region does not impact the construction schedule of a thin-brick precast project.

What design requirements have to be considered? Thin brick design considerations eliminate dovetail anchors. Weep holes are not required. Lintels are not required. Thin brick can be used in all types of precast/prestressed panels. Integrally cast thin brick has become an acceptable method of commercial brick construction in most seismic zones throughout the mid-Atlantic region.

The most commonly asked questions regarding thin brick are: "Will the bricks pop out?" and "What about moisture penetration?"

Independent tests conclude that the brick to concrete bond is excellent and exceeds 3,000 pounds per brick. In pullout tests, the brick fails or shears before it pulls out of the concrete. ASTM C-666, freeze/thaw tests were performed on samples and no delamination of brick occurred and the system receive an "Excellent" rating. The brick is IN there!

For more information on thin brick or architectural precast concrete contact MAPA by email: info@mapaprecast.org or by phone 800-453-4447.



Thin brick installed face down in a gasketed formliner in precast mold



Space was tight but innovation helped **High Concrete Structures, Inc.** meet the challenge of erecting a precast concrete parking structure for the Wilkes-Barre General Hospital, part of Wyoming Valley Health Care Systems. The deck, consisting of three supported levels, recently opened at the corner of North River and West Maple Streets. It provides 223 parking spaces for use by employees and visitors.

Tom Williams, project manager with construction manager Sordoni Construction Services put it bluntly: "Logistics on this job were a nightmare. We were building basically from property line to property line, and one side was a state highway, so it was quite a tight site." Williams says the goal was to get the deck erected "As quickly as possible with the least amount of disruption to the hospital and the neighborhood." The need for speed was met by precast concrete, Williams adds.



The parking deck abuts a new ambulatory care center that was under construction at the same time. That made for a great deal of construction-related activity on a relatively small footprint. Both bays of the garage were ramped, sloping the flooring members to allow for the traffic flow up and out of the garage within the limited space. Project architect AI Winchester of Ellerbe Becket, of Washington, DC notes that the use of High's fifteen-

foot-wide tees saved time and money on the project. And precast shear walls helped assure stability, despite tight conditions.

Hospital officials wanted a gray buff finish to complement adjacent buildings. They were pleased with the use of two different finishes developed by High that linked the parking structure with materials used on nearby structures.

Producer Members

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Middleburg, PA

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Concrete Building Systems, Inc.

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High Concrete Structures, Inc.

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The Shockey Precast Group

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Strescon Industries

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contact: Bob Adams 215-945-9880



Universal Concrete Products Corp.

Douglasville, PA

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HOLLOWCORE

The residents at the Town Square at Pleasant View retirement community in Manheim, PA can sleep more soundly knowing they have precast concrete hollowcore slabs to enhance their safety. The owners are very happy knowing they have an economical design that will meet their occupancy schedule and a real estate investment that will hold its value long into the future.

"Structurally, hollowcore offers the best and most economical design for residential projects like this" says Senior Project Manager Don Scruggs with the project's architect Noelker & Hull Associates in Chambersburg, PA. "Speed of production and construction was always a consideration, since we had to erect the structures during the winter months." Fire safety is always a concern when it comes to multi-housing facilities, he notes, and

precast's inorganic composition helps in that regard.

The ceiling surfaces were sprayed with a textured paint, and the floor had a poured topping with some areas feathered to create a level surface, notes Joe Kumer, vice president of operations at

Consolidated Construction Co, Lititz, PA. "Overall, the product worked very well."

About 190,000 square feet of space are being added in areas using 8-inch and 12-inch hollowcore provided by **Nitterhouse Concrete Products** for a combined floor and ceiling component.

