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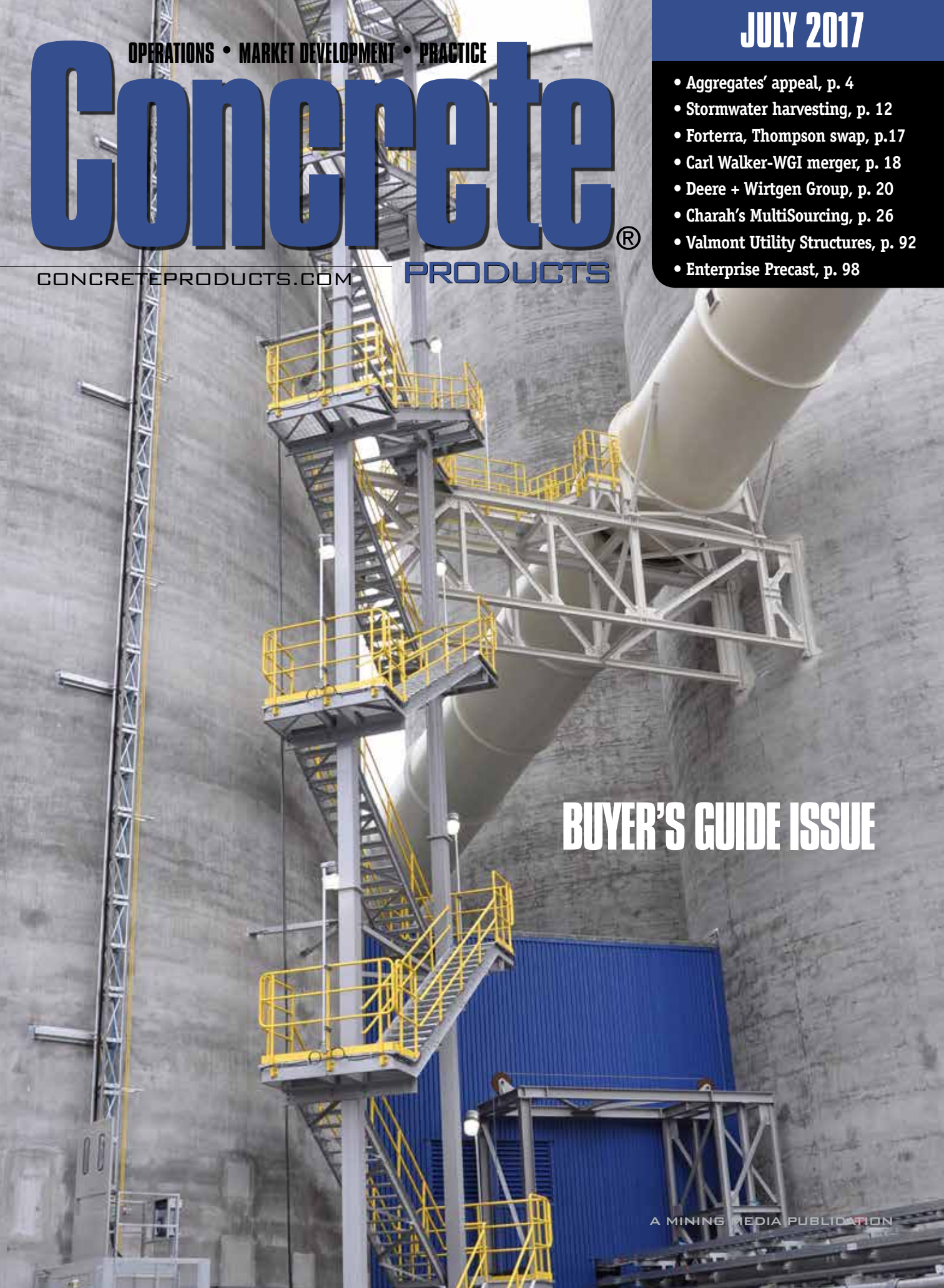

BUYER'S GUIDE ISSUE

A MINING MEDIA PUBLICATION

BY JOHN MYERS

Insulated architectural precast panels: Value beyond building

Savvy builders know the true value of a building product must consider a combination of the purchase price, installation cost, and possible long-term operational savings it provides to the owner during the life cycle. At Enterprise Precast Concrete of Texas, Operations Manager Scott Davis is certain that a high-performance building envelope is one of the wisest investments that can be made on any commercial construction project, regardless of client or purpose.

"I'm confident that there is no better value for a wall system than an insulated architectural precast panel," says Davis, who has been in the construction industry for more than 18 years and oversees Enterprise's Corsicana, Texas operation. With headquarters office and plant in Omaha, Neb., the producer has an effective delivery area that stretches from Galveston, Texas, to Minneapolis, Minn., in a 500-mile radius around each production facility. Davis' confidence in insulated precast panels is shared by General Manager John Arehart, who has been with Enterprise since 1988 and seen the significant evolution of architectural precast panels over a 29-year career.

"High quality concrete additives have really improved the performance and possibilities of architectural precast," says Arehart, who recalls that in 1988 large panels were 10 x 10 ft. while today panels can easily span 12 x 50 ft. and 15 x 35 ft. Arehart has seen increased precast panel size compel a cultural shift across the construction industry affecting virtually everything from site logistics and craning operations, to trucking access, delivery sequencing, equipment required to move massive pieces and the skilled labor that secures them in place. "Insulated precast panels didn't exist when I started in the business and today they account for more than half of all of our production," he affirms.

Among architecturally significant projects, Enterprise has been a part of the Kauffman Center for the Performing Arts in Kansas City, where a combination of insulated and solid panels, including curved shaped pieces, were transported to the site on specially fabricated racks. At the Bloch School of Business, another recent project, the use of insulated precast panels resulted in substantial cost savings over rain screen framing systems that designers originally envisioned.

Insulated precast panels are well regarded for their environmental benefits, which begin with their fabrication in a controlled production facility with virtually no waste. Enterprise's insulated panels also provide a complete thermal break between the interior and exterior, so they are a great way for architects to meet building codes, while supporting sustainability with a high-performance envelope that works well in any climate.

PREMIUM PANELS

Enterprise uses a highly-specialized and proprietary wall system, Altus CarbonCast panel, developed by a conglomerate of architectural precast producers with exclusive ownership of the technology. Founded in 2003 under a "co-opetition" model, AltusGroup companies like Enterprise engineer, manufacture, validate, and market precast innovations and then compete against one another for contracts when their service areas overlap.

Using carbon fiber technology, the award-winning Altus CarbonCast panel sandwiches the insulation between the architectural exterior wythe and a smooth grey concrete interior wythe to become the only type of architectural precast panel to provide 100 percent composite action for exceptional structural capacity. With all of the forming, mixing, pouring and curing technology in-house, Enterprise relies on Foam-Control Expanded Polystyrene (EPS) ridged foam insulation as the most effective core for its CarbonCast panels and generally achieves an R-value of between 4 and 5 for every inch of EPS foam thickness.

"Frequently our projects involve panels of many different sizes and material compositions," notes Arehart. "ACH Foam Technologies is able to manufacture rigid foam insulation in an array of lengths, thicknesses, densities and compressive strengths, which allows us to fabricate any panel on any project with ease and little waste."

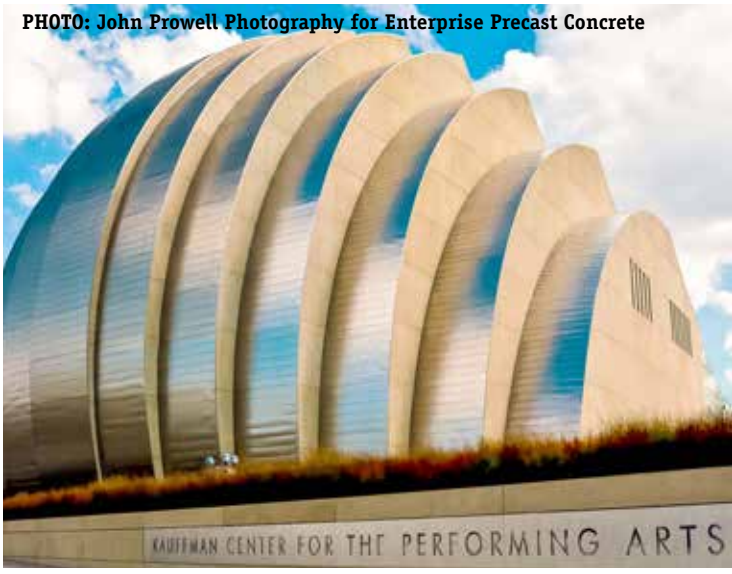

PHOTO: John Prowell Photography for Enterprise Precast Concrete

One of Kansas City's newest landmarks put Enterprise Precast's fabrication and hauling competencies to the test.

ACH Foam Technologies is currently supplying Enterprise with a steady stream of Foam-Control 130 product for CarbonCast panels going into a new $1 billion data center for a major technology company building out more than 250,000 square feet of new space in Fort Worth, Texas. With operations and production responsibilities, both Arehart and Davis appreciate ACH's willingness to organize and develop detailed product numbering systems for each order to Enterprise specifications. Such organization allows fabricators to quickly pull the required insulation pieces and build each panel's interior in a repeatable process.

ACH representatives work with buyers to build an initial product delivery schedule and then continually monitor the push and pull of each project in weekly check-ins to make required adjustments. Enterprise also finds that EPS products are easier to use than comparable XPS materials while the foam's slightly textured face provides a gripable surface for the concrete to bond, creating a stronger seal between layers.

In addition to Foam-Control 130 insulation used in Enterprise's precast panels, ACH also makes Foam-Control PLUS+ architectural insulation, which delivers high compressive strengths and R-Values. Foam-Control and Foam-Control PLUS+ solve other construction challenges from roof insulation to vertical wall applications and underslab insulation, and function as strong yet lightweight concrete void fillers.

Enterprise Precast aims to produce and ship an estimated 2,500 square feet of new panel in each of its two facilities daily. The plants are typically supplying between six to 12 pieces on each of five separate projects a day from both Omaha and Corsicana. Orchestrating some 50 different panel trailers and hundreds of frames and racks to transport the finished panels to jobsites up to 500 miles away requires a substantial team effort—especially in the face of frequent just in time delivery requirements.

"Getting a steady stream of panels to each of the jobsites as the cranes are ready to pick and set them is an intricate ballet in a lot of ways," quips Scott Davis. "We have capacity to store roughly 1,500 panels at our plant and we maintain constant communication with clients to understand the push and pull of each contract's schedule so the panels keep pace regardless of weather or other schedule impacts."

Value analysis of any building system or product requires a holistic view of the project and the objectives the client appreciates the most in their own measure of success. Finding a balance between cost, schedule, quality, and appearance shouldn't feel like a compromise on any commercial building project regardless of scope or complexity. Thanks in part to the dynamic range of possibilities of today's insulated architectural precast panels, clients, designers, and builders can realize virtually any design imaginable with a high-performance building envelope that builds quickly and is readily in line with market costs.

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PHOTOS: Jacia Phillips Photography for Enterprise Precast Concrete

The use of Enterprise Precast insulated panels resulted in cost savings over rain screen systems for the Bloch School of Business.