Savvy CB product showcase

DIVERSAKORE® lets you build it stronger, faster, more cost effective

VERSA:T: composite beam framing system achieves long spans with low profiles.

By Bobby L. Hickman

What if someone introduced a framing system that combines the strengths of concrete with the speed of structural steel systems – while constructing buildings stronger, faster and at less cost than conventional approaches?

That's the solution that DIVERSAKORE offers construction professionals. DIVERSAKORE is a structural engineering products and services company based in Atlanta. Its unique composite framing system is being adopted across the country as more builders and architects embrace the innovative construction approach.

Vice President Brian Conlan explains the company "has developed a composite framing system that achieves long spans with low beam profiles. The system is designed to provide comparable building performance to post-tension slab – except that it uses pre-manufactured assemblies for faster erection, higher quality control and lower building weight."

DIVERSAKORE offers flexible solutions for a variety of building requirements. By utilizing different column, slab and bracing combinations, they are able to develop designs that are appropriate for the specific job based on available resources, current materials market conditions, and most importantly, the ultimate use of the building itself.

The VERSA:T: composite beam is the common link that ties everything together. It is available in both dropped beams and flat slab configurations and is engineered to meet a comprehensive set of common building conditions.

The beams and slabs are erected, and then concrete is poured inside the beams. This solidifies the beams and slab assemblies into a monolithic structure that acts like a reinforced concrete framework – but usually in a smaller, lighter structure than traditional systems produce. The company currently offers three primary slab assembly options (with more under development), all of which are aimed at reducing overall framing costs. All three products are prefabricated and delivered to the job site for fast assembly.

- Hollow core slabs vary in depth and can be specified with or without a topping slab to adjust performance. They are very effective for long spans, thin slab sections, and speed of construction.
- Steel composite slabs vary by span, depth and gauge. They are an industry standard for the development of lightweight high performance slabs that are fast to build.

The Bridgeview is a mixed-use complex in Chattanooga, TN, constructed in 2008 using the DIVERSAKORE framing system throughout. "Speed, simplicity and cost savings were the major benefits to the developer," explains President Marc Rahimzadeh. "We were able to bring efficiencies and savings throughout the project, including labor. The lower beam profile minimizes total building height, which means less exterior exposure and thus lower skin costs."

• Aerated Autoclaved Concrete (AAC) slabs have been a standard abroad for many years, and are exceptional for easy and fast assembly and developing thermal efficiencies, fire resistance, and sound transmission reduction.

"We have deployed the system using concrete (CIP or precast), steel or composite tube columns for the greatest flexibility, efficiency and cost savings," Conlan explains. "Our goal is to minimize raw materials and maximize labor efficiency while producing a strong, lightweight frame."

Another advantage of the DIVERSAKORE system is that the VERSA:T: Beam and hollow core assembly has a 2-hr UL-approved rating. This eliminates the need to have the VERSA:T: beams spray fireproofed, another cost and time savings.

Several of the VERSA:T: beams, both interior and exterior. The composite nature of the beam enables longer spans, allowing architects to incorporate more open floor plans into their building designs.

DIVERSAKORE was founded eight years ago by Housh Rahimzadeh, a structural engineer and former vice president and director of engineering services at John Portman & Associates. "One of his objectives was to develop a structure that performed like reinforced concrete but was lighter and faster to build – utilizing a pre-fabricated manufacturing approach, like structural steel," says Marc Rahimzadeh, Housh's son and company CEO. Housh came up with the idea of combining the traditional framing materials of steel and reinforced concrete to create a building approach that merges the strengths of both materials. He developed DIVERSAKORE's patented VERSA:T: Beam, which uses a composite steel form made up structural plate and shear studs, which is then filled with concrete to create a composite beam.

In addition to construction products, DIVERSAKORE also offers a full range of design consulting services to help clients select the right combination of products for their particular situation. The company can provide support for all phases of a project: initial definition of requirements and objectives; design, where DIVERSAKORE works with architects and engineers; coordination with the general contractor; manufacture of fabricated steel packages and other components; and construction. Construction can include erecting the framing members, adding rebar, pouring VERSA:T: beams and columns, and pouring and finishing the topping slab.

DIVERSAKORE's products and services offer benefits to most commercial markets including hospitality, mixed use, office, education, condominiums, health care, public buildings, and parking decks. Examples of recent projects include The Artisian, a mixed-use complex in Decatur, GA; an eight-story student housing and parking deck facility at Spelman College in Atlanta, GA; the five-story Bridgeview mixed-use building in Chattanooga, TN; and the 10-story aLoft Hotel in Charlotte, N.C.

Since the company is based in Atlanta, most of its projects thus far have been in the Southeastern United States. Interest is now growing in the Atlantic Coast and Gulf Coast areas. "We have a partner in Denver who has several projects underway, and we're seeing interest in using our products in the Midwest and Texas," Conlan adds.

Rahimzadeh says the DIVERSAKORE approach assists builders in obtaining LEED certification for "green" buildings because the DIVERSAKORE system entails several characteristics that support LEED points in such areas as Materials and Resources conservation and the Innovation and Design Process. For example, structural steel is consistently salvaged and recycled.

By not relying on load bearing walls, the DIVERSAKORE framing system allows structures to be more easily renovated and reprogrammed for alternative uses. By utilizing pre-fabricated, locally-sourced components, the DIVERSAKORE system minimizes jobsite waste and, in some cases, eliminates it completely – another plus for LEED certification.

Simply stated, the DIVERSAKORE system is designed to help improve a building's bottom line. With today's builders and developers continuing to look outside the box for better solutions to their structural needs, DIVERSAKORE's new system is standing out as a viable and cost-effective answer. Given the initial success of their unique building system, the company's future certainly looks bright.

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