THE INTERVIEW: Steve Wightman

SPORTSFIELD AND FACILITIES MANAGEMENT

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"Installing the panels is very similar to installing any other drivable floor product with the notable exceptions of having to connect the power cords between each panel and having to plan out the power circuits for the floor well in advance.

“Overall, the results were exactly what we hoped for; our grass under the LED panels was in better condition coming out of the concert than it was going in. Anyone who has had a large stage with towers on their field for more than a couple days can attest that normally the grass under the towers is the most damaged and yellowed, and takes the longest to recover from the concert. Our turf under the Taylor Swift towers was green, vibrant, strong, and TV-ready as we pulled off the LED panels.

“I remain excited about the future with LED grow lights for use in stadium turf management, and we expect to use these LED panels more going forward here in Houston.”—Dan Bergstrom, Senior Director Major League Operations, Houston Astros

New indoor flooring option available

More than 6 years since the flood of 2008 destroyed the University of Iowa’s Voxman Music Building, the Hawkeye Marching Band is finally enjoying the benefits of a new indoor practice facility. This new $15 million facility features a full-scale artificial turf practice field that additionally provides much-needed indoor athletic facilities for the University’s intramural and club sports, as well as some athletic department teams.

Iowa’s intense weather produces temperature swings that range from below zero in the winter months to above 90 degrees during the summer. As a result, designers and builders need reliable, durable insulation strategies that perform well in both extremes. During the project development phase, the design-build team recognized that a key consideration for the University would be how to mitigate long-term heating and cooling costs for a building roughly the size of a football field for the life of the facility. For a space that size, a PEX (crosslinked polyethylene) in-floor radiant heating provided a lot of advantages over forced-air.

“Because this was a design-build project, there was a lot of opportunity to provide value analysis-based solutions during the pre-construction phase,” remarked Jim Seelman of MBA Incorporated (MBA), the subcontractor responsible for the indoor turf scope of work under Russell, MBA was familiar with a variety of architectural grade expanded polystyrene (EPS) insulation products that would support the radiant heating system. Since the design called for some 80,000 square feet of under-slab insulation, Seelman recommended ACH Foam Technologies’ Foam-Control Plus+ as an ideal solution.

In part, Seelman’s recommendation centered on the product’s favorable cost compared to XPS alternatives. Seelman estimates that selecting Foam-Control Plus+ saved the project more than $100,000 in material costs alone over the original specified product.
In addition, the selected product had to meet the University’s performance criteria. Compressive strength was one key consideration since the design called for a 6-inch layer of rock aggregate on top of the insulation, followed by the artificial turf. Placing the aggregate on top of the insulation required large trucks to drive onto the already placed foam to dump the material, which was then finished in place. Other factors were the superior K-value of Foam Control Plus 1; the ease with which the radiant heating piping could be laid into the insulation; and the product’s 50-year warranty. Seelman remarked that one of the advantages of ACH’s product was how well it works with the PEX tubing fasteners that hold the product in place. It is also the first EPS insulation on the market to come in uniform pre-scored pieces, increasing the ease and flexibility of installation.

“This product is extremely easy to install,” continued Seelman. “We actually hired the local high school football team to help with the installation, and the kids were able to use the work as a team fundraising project.” Under MBA’s guidance, all 80,000 square feet of under-slab foam insulation were installed in a single 12-hour night’s work, tallying roughly 250 man-hours of labor. “There were about 20 players from the team and those boys worked so hard, we actually pressed to keep the materials coming to them fast enough. They laid out the foam, taped the joints, and kept the overall grid really straight. They also ate about $300 of pizza, but it was a great experience for all of us.”

The evenness of the product was also crucial. Since the insulation was being installed below grade, any inconsistencies in level could contribute to an uneven foundation. MBA used an Apache Dual Plane Laser System, tractor-mounted grading box to ensure a highly precise finish grade that remained flush within a quarter of an inch to support the aggregate and turf layers. Seelman also touted Foam Control Plus 1’s uniformity, calling it “the most square” foam product on the market.

Though the design-build methodology is tried and true for builders and clients across the country, for the University of Iowa it was an unfamiliar process. That meant increased attention paid to every design and construction decision, including material selection and procurement. According to Seelman, the University wanted all long-lead items accounted for well before they were actually needed on site.

“When we made the switch from the original specified product to Foam Control Plus 1, the University wanted actual photographic proof that we would have the required volume of materials on hand and ready for installation,” noted Seelman. “When you are talking about pre-purchasing 80,000 square feet of foam insulation, it’s not the kind of thing that can be brought to a congested construction site and simply stored until it’s ready to be installed.”

Working with Seelman and the local product distributor, Whitecap, ACH Foam Technologies processed the material order and then stored the foam until the foundation was ready. Knowing that many contractors find themselves in similar situations, ACH Foam Technologies often works with distributors to warehouse purchased materials and transports them to construction sites for a just-in-time delivery.