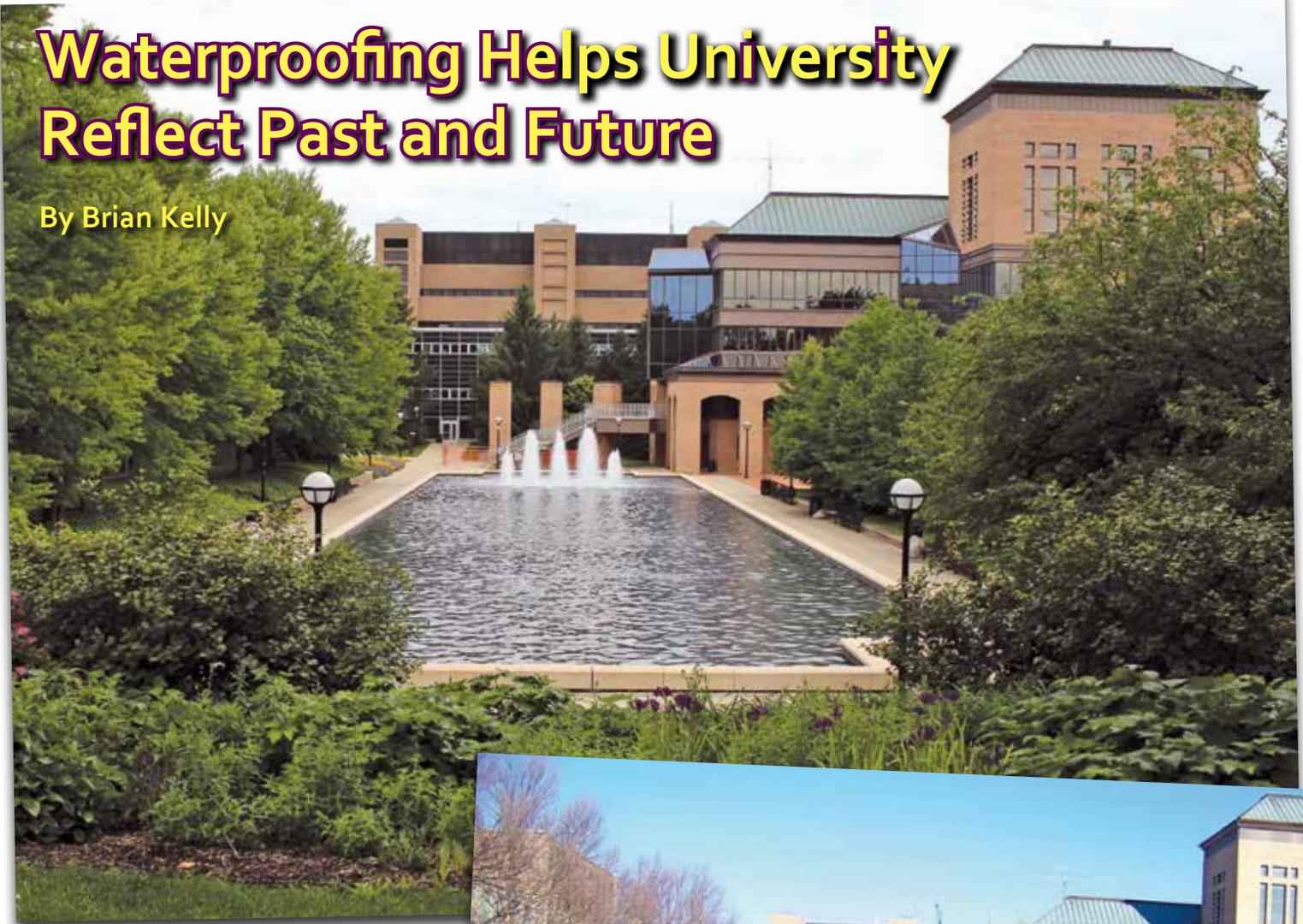


# Waterproofing Helps University Reflect Past and Future

By Brian Kelly



*The reflecting pool following removal of the construction tent.*

**A** 240- x 60-ft. reflecting pool, formally known as the “Class of ’47E Reflecting Pool and Fred’s Fountain,” is a focal point at the University of Michigan in Ann Arbor. When the original waterproofing exceeded its life expectancy, the university sought a solution designed to last well into the future.

Simpson Gumpertz & Heger Inc. of Boston specified a cold liquid-applied reinforced membrane waterproofing system from Kemper System America for the project. Royal Restoration & Waterproofing of Livonia, Michigan, an approved vendor for the University of Michigan since 2005, was awarded the installation contract after a competitive bidding process.

The concrete floor and sides of the 19-in.-deep pool were waterproofed with the



*This 240- x 60-ft. reflecting pool is a focal point at the University of Michigan in Ann Arbor, and is formally known as the “Class of ’47E Reflecting Pool and Fred’s Fountain.”*

two-component polyurethane membrane system all the way to the top. A cast-stone cap overhangs the edge of the reflecting pool with about a 1½-in. lip. The job also involved removing the existing caulk around

each 3- x 16-in. stone and recaulking all the joints.

In addition, the pool has three large metal drains at the bottom, as well as circulation drains that suction water and feed

the fountainheads at one end of the reflecting pool. At the walls, there are also skimmer pockets.

Such waterproofing challenges were readily addressed with the versatile membrane system, according to project manager Ryan Meekins of Royal Restoration, a certified installer of the system. "To waterproof around the openings, we finger-cut the reinforcing material [165-gram polyester fleece], saturated the cut pieces with the resin, and positioned the pieces over the openings with the fingers extending into the drains. Then we finished by rolling on more resin. We used the recommended epoxy-based primer on the drains to promote adhesion to the metal. The field membrane across the floor and the walls covers over the finger joints," he explained.

The liquid resin is applied cold with a wide roller, and the reinforcing membrane is rolled into the wet resin a section at a time; then, the fleece is top-coated with more resin. The two-component resin is made from renewable

materials and is both solvent- and odor-free, characteristics important both for sustainability issues and for the campus and work environment during application. The job needed to be completed that winter because the reflecting pool is required to remain operational. The solution was to set up a tent over the entire pool and use three temporary heaters inside to help maintain a target temperature of 58-60°F.

"We finished this job in the winter, but our team of six to eight worked the whole time in T-shirts," Meekins said. When the weather on campus got cold, it got cooler inside the tent, but it was still comfortable for the work crew and well within the application range of the product. "The colder temperatures didn't affect the application. Our team just worked together so we never

got too far ahead when we were rolling out the fleece and coating the membrane." The entire project size was 14,420 square feet.

"It's really a unique material, and once you understand the system, it's easy to apply. You can do a lot of different types of waterproofing jobs with it and seal around all the details," he said. Royal Restoration has since used the system to protect the roof of the Galbraith Chapel at Ohio University.

The University of Michigan project, including prep work, took about two months from start to finish. Meekins notes that the manufacturer of the reinforced membrane waterproofing system provided on-site support. "National field technical manager Roland Weith gave us advice during the installation and checked on our progress all the way to the end." 

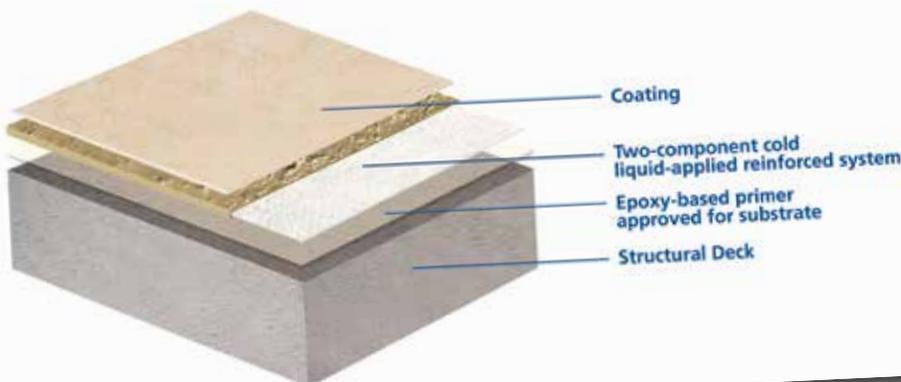
*Brian Kelly is the national project design and specification manager for Kemper System America, Inc. In addition to his other responsibilities, he presents AIA-credited seminars on a variety of roofing and waterproofing topics, including "blue roof" rainwater detention systems.*



*A tent was set up over the entire pool area. The cold liquid-applied reinforced membrane system provides added protection over joints and cracks and around drains and other details. The solvent- and odor-free primer and resin system were important qualities during application.*

## WATERPROOFING ASSEMBLY

Planters, Interior, Fountains, Restoration



*Waterproofing assembly.*