



Compatible coating system makes the grade

Stegeman Coliseum is home to the University of Georgia basketball and gymnastics teams. Built in 1964, it is a landmark on the school's Athens campus because of its unique dome-shaped, concrete roof supported by four massive concrete legs. ¶ Recently, however, the normally bright white, 130,000-square-foot roof was dulling as a result of dirt, mildew and other airborne pollutants that were embedding in the roof. It had become such a problem that the outline of the roof's concrete deck pattern was telegraphing through. To help solve this issue, university officials brought in Patrick L. Downey, president of Marietta, Ga.-based Merik Inc., a roofing consulting service.



COMPILED BY **RETROFIT STAFF** >>

project team

roof consultant

▷ **MERIK INC.** / Marietta, Ga.,
www.merikinc.com

coating manufacturers

▷ **ERSYSTEMS** / Rockford, Minn.,
www.ersystems.com

▷ **ARKEMA INC.** / Philadelphia
www.arkema-inc.com

roofing contractor

▷ **M. JORDAN ROOFING** / Manchester, Ga.,
www.mjordanroofing.com




According to Downey, the principal problem was a breakdown of the existing acrylic coating, along with dirt and mildew build-up, and some minor chalking. There was also damage to flashing systems and the lightning-protection system.


When it came to the selection of a coating system for the roof restoration, Downey said the primary concern was a desire for a longer service life. The acrylic coatings that had been applied during previous restorations were expected to last five to seven years but began deteriorating after only two to three years. "Good compatibility between the new coating and existing coating was also important," he adds. "As part of our due diligence, we conducted adhesion tests on the roof using a number of coatings that incorporated new water-based technology. We also wanted a coating that was user friendly for the installer and an application process that wouldn't interfere with the operation of the facility."

ReflectiClean from ER Systems, a single component, waterborne elastomeric coating, was selected as the new topcoat for the coliseum roof. It provides color retention and fade resistance, as well as a 15-year warranty. The coating, which is available in 11 standard colors and custom-color matching, is based on Kynar Aquatec, a new emulsion-based, low-VOC PVDF fluopolymer technology developed by Arkema Inc. to deliver the same durability and performance as Kynar 500 PVDF resin-based coatings.

However, rather than requiring high-temperature factory baking, coatings based on Kynar Aquatec cure at ambient temperatures, meaning they can be field applied to a variety of substrates, including metal, PVC, spray-polyurethane foam, concrete and wood. They also can serve as a finish coat over acrylic base coats.

Roof restoration began with a pressure wash of the entire roof area, which allowed the roofing contractor to determine which flashings required repair. Existing roof coating that had delaminated was removed and filled by embedding a fabric and covering it with an acrylic coating. The roof then was covered with a 9-mil dry thickness of an acrylic coating, followed by two coats of the ReflectiClean finish coat. Applied at the rate of 1/2 gallon per 100 square feet, the finish coats totaled 7 mil in thickness.

Downey notes because the coliseum was constructed during the 1960s it has minimal insulation. As a result, heat reflectivity of the roof's surface was another important aspect of the project. "The fact that the new coating is a harder film and more resistant to dirt build-up and mildew will help with the roof's long-term heat reflection, which is important to the ongoing operation of the building," Downey states. "So, while the roof of the building does look great aesthetically, it also exhibits a great deal of functionality in terms of its heat reflectivity and cool roof properties." 

 **When it came to the selection of a coating system for the roof restoration, the primary concern was a desire for a longer service life.**