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Performing Arts Center

Architecturally-Advanced

Complex Revitalizes Arts District

The multi-million dollar, massive performing arts complex plays a supporting role in the redevelopment of Kansas City's downtown district.

By Mary Burk

Located in downtown Kansas City, Mo., in the Crossroads Arts District is the new Kauffman Center for the Performing Arts is the home to three of the region's leading performing arts organizations: Kansas City Ballet, Kansas City Symphony and Lyric Opera Theatre of Kansas City. Officially opened in September of 2011, the 285,000-square-foot facility is one of the most technically and architecturally advanced performing arts centers in the nation.

This city redevelopment project that went underway in October of 2006, proves to be the shining star and a pivotal piece of the puzzle to revitalize performing arts in the city. According to Project Executive Kyle McQuiston, the facility, designed by renowned Canadian architect, Moshe Safdie, is a

structural concrete and steel building dominated on its south side by a cable supported glass system that creates an atrium effect. The architectural references are anything but subtle. From the outside, the theaters are two curving, inverted, pristinely white arches.

The Helzberg concert hall — Kansas City's musical masterpiece — houses 1,600 seats and is home to the Kansas City Symphony. This is a separate hall from the Muriel Kauffman Theatre, which provides a home for both the Kansas City Ballet and the Lyric Opera of Kansas City, which contains 1,800 seats. The two halls are protected from unwanted noise by separate acoustic envelopes. Each hall is an independent building within an overarching structure that creates the entire center.

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Photo Credit: Tim Hursley

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▼ The approximately \$413 million complex, funded by private donations, also includes a 1,000-car underground parking garage with a green landscape.

Photo Credit: ACH Foam Technologies

The approximately \$413 million complex, funded by private donations, also includes a 1,000-car, underground parking garage with a green landscape. The glass roof creates a series of interior piazzas that serve as shared public spaces. The Kauffman Center's grounds are used for both outdoor performances and public gatherings.

Geofoam, because of its lightweight and physical properties, proved to be instrumental in carrying out the difficult design of the facility. Known primarily for its use in major transportation projects, EPS geofoam is being discovered by engineers to be the material of choice for an extensive array of commercial applications. The high compressive strength, light weight and predictable performance of geofoam has made it especially appealing for reducing weight on concrete decks, creating green roofs, providing fill for floor elevation changes and landscapes as well as reducing lateral pressure on foundations and retaining walls.

Now that the construction and engineering communities have had many years of exposure to geofoam and continue to explore its use in commercial applications, geofoam is becoming an important solution in meeting critical design requirements for projects. ACH Foam Technologies, a geofoam manufacturer, offers technical and design support in



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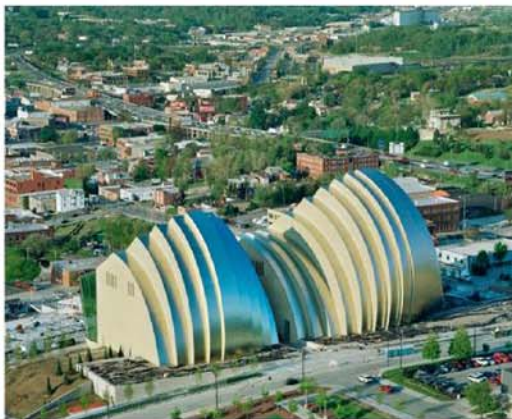
— Mike Miller, project manager, George J. Shaw Construction





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the field when challenging projects arise — such was the case with the construction of the Kauffman Center.

The rooftop of the parking garage adjacent to the Kauffman Center provides the outdoor space needed for performances and gatherings. In order to create the green-roof space, engineers required a lightweight fill material, such as EPS geofoam, that would reduce the weight of the space on the parking structure below.

Mike Miller, project manager from George J. Shaw Construction stated, "To our knowledge this is the second largest green roof installation in the U.S. — second only to the larger installation atop one of the parking garages near Yankee Stadium. In addition to the massive quantities of geofoam involved, this project was also challenging due to the sloped roof deck and the terraced landscape design. Also, due to schedule limitations the geofoam system was designed based on assumed concrete deck elevations

extracted from the construction documents without the luxury of any as-built conditions. ACH Foam took a massive, complex installation and simplified it for us into smaller, manageable situations."

Geofoam was used to fit the sloped, concrete roof deck of the parking garage and create a compound sloped, top surface for the park. Over the geofoam, grass, walkways and trees were installed to create a beautiful green area. Approximately 350,000 cubic feet of EPS 19 Geofoam with perform guard termite resistance treatment was installed. About 118 truckloads of EPS Geofoam was used to complete the project in August of 2011.

Miller added, "ACH Foam was chosen for the job because of prior successful geofoam designs they produced with J.L. Bruce & Company landscape architects." Miller further explained, "The [ACH Foam Technologies] designer worked closely with the architect and George Shaw Construction to provide a custom fit geofoam job involving special cut geofoam pieces. ACH was always available to meet at the site and assist us with installation strategies, and to help us resolve issues concerning differing field conditions and changing the ultimate topography of the site."

With an eye-catching appearance and a mission to experience the arts, the complex has changed Kansas City's skyline, as well as the experiences of artists and audiences throughout the region. Each space contains dramatic eye- and ear- catching design that combines sophisticated aesthetics, acoustics and technology with the intimacy of a smaller space and the comforts of home.

Mary A. Burk is the corporate marketing manager at ACH Foam Technologies. She may be contacted at mburk@achfoam.com.

