Project Profile

Project
Dallas/Fort Worth International Airport
Dallas, TX

Owner
Dallas/Fort Worth International Airport

Architect
HNTB
Alexandria, VA

Roofing and Waterproofing Contractor
King of Texas Roofing Company, LP
Grand Prairie, TX

Roofing and Waterproofing Systems
Adhered roof system, using light grey, 72 mil G410 membrane (Terminal D, hotel, and people movers); Grid System, using 80 mil, G476 waterproofing membrane (hotel deck); and adhered roof system, using white, 72 mil G410 EnergySmart Roof® membrane (Skybridge)

Total Project Size
671,282 square feet

Completed
September 2005

Sika Sarnafil and King of Texas Exhibit High-Flying Performance at DFW Airport

According to the U.S. Department of Transportation, the Dallas/Fort Worth International Airport is the third busiest in the country based on number of enplaned customers. When the airport wanted to further expand, they turned to Sika Sarnafil and King of Texas Roofing Company, LP, of Grand Prairie, TX for their roofing needs. The large projects would be a tall order for almost anyone, but it was one that King of Texas and Sika Sarnafil were able to meet with flying colors, thanks to talent, teamwork, and time-management.

The Logistics of Roofing an Airport

DFW was building a new international terminal, a skybridge connecting terminals D and C, a new Grand Hyatt Hotel, and an Automated People Mover System, with two-train stations at every terminal. Since DFW had used and been pleased with Sika Sarnafil roofing systems for some time, Sarnafil® was specified for the new projects, said Jay Moyer, quality engineer/inspector at DFW Airport.

King of Texas Roofing had installed Sika Sarnafil roofs at the airport in 2002, according to Paul Woznuck, project manager at King of Texas, and so was familiar with working with the airport.

“Projects at the airport are challenging, especially when it comes to logistics,” Woznuck stated. “To solve issues at the automated people movers, the airport would have to move jets out of the gates at night to allow our workers to move material into the work areas, and then they would move the jets back before the day-shift contractors arrived in the morning. In addition, when the wind reached over 25 mph the contractors could not work on some areas out of concern that work debris might damage the aircraft parked at the gates below.”

The skybridge covers a pedestrian bridge that comes out of Terminal C. It also spans two service roads and a six-lane parkway and then enters Terminal D. There were difficulties here also getting the materials to the site, because doing so required closing the service roads and bringing in and loading the materials at night. “In order to accommodate the airport traffic and tight

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schedule, we literally had to work around the clock," Woznuck explained.

A Good-Sized Challenge

In all, King of Texas would install 671,282 square feet of Sarnafil membrane on the airport. "The square footage and coordination with the other trades was a real challenge," said Moyer. "But we had ongoing meetings throughout the entire project and everything worked out."

As Woznuck explained, "the terminal roof alone was 385,000 square feet and took almost two years to complete. We often had to wait up to a month for the next section to become available before we could work on it; we were hopping all over the place."

Terminal D — A "Crown Jewel"

The new international terminal is a large, U-shaped building with an upper roof that, according to Woznuck, "looks like an airplane wing." Sarnafil G410 light grey adhered membrane was installed on the third floor roof of the building. "The Sarnafil adhered system was selected for wind uplift," he stated. "The airport wanted to choose the very best product available because this was their crown jewel. They really outdid themselves."

On the flat portions of the roof, the membrane was installed on top of 1/4 inch gypsum roof board over two layers of 1.9 inch polyisocyannurate insulation. While that portion of the roofing system installation was fairly straightforward, there were some difficulties dealing with the three-quarter mile of train track that ran through the building, Woznuck said.

"There were 22 guide way roof bays on each side of the building which had little sections of roof with very small areas – about 30 feet by 25 feet – in which to maneuver. Access to the roof was limited." King of Texas used cranes and other equipment to move the needed roofing material to these very tight spaces.

Sarnafil membrane was installed on Terminal D, the Grand Hyatt Hotel, the Skybridge and the Automated People Movers at Dallas/Fort Worth International Airport, Dallas, TX.

Hotel Poses Special Difficulties

As Woznuck described it, the new Grand Hyatt Hotel "shoots up out of the middle" of the Terminal D roof and features a swimming pool and surrounding deck area. The G410 adhered Sarnafil roofing system in light grey was also used here, but this time over a structural concrete roof deck. The pool and deck area featured Sika Sarnafil's G476 waterproofing membrane over tapered insulation and then covered with three different colors of roof pavers.

"We set up bison screw jacks to set the pavers on. Everything had to match up with the stone coping at the pool," Woznuck said. "In addition, there was the issue of getting 390 85-pound pavers on the roof. We ended up using helicopters to transport the pavers from three flatbed trucks on the tarmac."

Teamwork and Coordination Pay Off

Though King of Texas has worked with the Sarnafil membrane for many years, Woznuck had never worked with the material before this project, and overall he was very impressed. "I particularly liked the ease of application and extreme durability of the Sarnafil system, as well as Sika Sarnafil's great customer and technical service. They gave us a lot of help and insight on how to get the job done and done right."

He added, "It was amazing to see it all happen and the amount of work done on these projects. And in the end, it did all come together." Moyer agreed.

"King of Texas did a good job on the installation, and everything went pretty smoothly for the size of the project," he said. "Best of all, we've had some big rains here and all the roofs seem to be working. I also like the fact that the roof has a light color, which will keep the building cooler. We are very happy and would recommend Sika Sarnafil again."

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