# Project Profile

**Project**
AT&T Tennessee
Headquarters Building
Nashville, Tennessee

**Roof Consultant**
Roof Engineering, Inc.
Charlotte, North Carolina

**Roofing Contractor**
Total Building Maintenance, Inc.
Chattanooga, Tennessee

**Roofing System**
Adhered EnergySmart® Roof
using with white 60 mil Sarnafil®
G410 membrane

**Project Size**
40,000 square feet

**Completed**
July 2008

## Sika Sarnafil Fills Superhero Needs on 'Batman' Building

Known as the "Batman Building" for its resemblance to the superhero's mask, the AT&T Tennessee Headquarter Building adds a distinctive element to Nashville's downtown skyline. The skyscraper is Tennessee's tallest building at 32 stories, and features multiple roof elevations and numerous irregularly shaped roof areas. Although these different roofs add to the unique design of the building, replacing them required nearly superhero skills.

### A Dark Problem

Most of the original roofs on the building were ballasted EDPM systems, which were leaking and showing signs of age. "The building owner utilizes a roofing asset management program that tracks data on distresses and leaks at all of their facilities. This roof was identified as one that needed to be replaced," said Scott Hinesley, PE, RRC and vice president of Roof Engineering, Inc. of Charlotte, NC. The specifications for roof replacement for the property owner's roofing program include thermoplastic membranes such as the Sika Sarnafil roofing system for these types of buildings, Hinesley stated, adding that this made particular sense on this skyscraper. "The use of hot asphalt can be problematic on high-rise, downtown building like this," Hinesley pointed out. "The use of cold adhesives for insulation and membrane attachment, combined with the hot-air welded seams of the thermoplastic roof membrane made this system an attractive option for the owner."

Hinesley was pleased that the Sika Sarnafil adhered roofing system was selected for this building. "Sika Sarnafil's track record sets it apart from other manufacturers," he explained. "We rarely specify anything else."

### "Holy Logistical Headaches!"

While the building's unusual roofing features may have been an architect's dream, they were also a roofing contractor's nightmare. "The 40,000 square foot roof was divided into 35 separate roof areas, with elevations ranging from 15 feet to 400 feet in height," said Chris Fetty, project manager for Total Building Maintenance (TBM), Inc. of Chattanooga, Tennessee. "Over half of the roof areas had to be accessed after business hours, usually through office windows or via a crane basket with limitations of 800 pounds and 10 mph winds," he explained. "We also had to set up a swing-stage in the attic space to raise materials and lower debris to two of the highest roofs." In

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addition, two other roof areas required heated walkway pavers to prevent punctures from icicles that were caused by sloping glass panels. "Logistics had to be managed mostly through the inside of the building with extra stress on safety, security, and site cleanliness," Fetty remarked.

TBM's work began with demolition of the existing EPDM roof assemblies over multiple deck types (including lightweight insulating poured concrete, metal, and structural concrete). This was followed with the installation of the adhered Sika Sarnafil system.

"Throughout the entire project we had to make sure there were no disruptions to the operation of the tenants in the building," Fetty said. This meant work done over or outside of office areas had to be performed from 6:00 p.m. until 6:00 a.m., and all offices used as work areas had to be cleaned up and "vacuumed like we were never there," before the workers arrived each morning, Fetty explained. Additionally, there was only one shipping/receiving area under the building, so deliveries and disposals of roofing materials had to be coordinated with the building's regular deliveries. Once the roofing material was delivered it then had to be hand carried to and from and elevator or up and down stairs to the various roof areas.

**Safety a "Super" Concern**

"While on a roof area, all workers wore personal protective equipment, including hard hats, safety glasses and fall protection at all times," Fetty said. "Hand tools were tethered to the building or worker to prevent them from being dropped or blown off due to excessive winds that were experienced almost daily at those heights."

The TBM crew worked hard even away from the roof areas. "We used rain days to precut the membrane and insulation in the loading dock areas, as well as to haul material around from the attic or to the dumpsters," Fetty explained. Some creative problem-solving was done off-site as well. "We had one 44 square foot roof area that had 131 projections, and the contract manager


required that all work be completed 100 percent each day," Fetty stated. "So we constructed steel models of the projections and shop-fabricated the membrane flashings to them, which enhanced production, quality and field installation."

Hinesley mentioned that the use of clad metals helped to simplify flashing of the numerous odd transitions and penetrations throughout this roof.

Fetty added that the Sika Sarnafil representatives offered a lot of assistance with many of these logistical concerns. "Sika Sarnafil was able to deliver materials to a local supplier who then brought the materials to us in small quantities, which was a big help since we had limited storage space on the job site," he said. "The company was great to work with whenever we had a problem to resolve."

**An Almost Super Human Installation**

Despite all these challenges, TBM was able to complete the project 45 days ahead of schedule. "TBM was very attentive to the logistical and construction concerns associated with this job," Hinesley remarked. "I was pleased that they were able to do this job without incident and more than a month ahead of schedule."

It was this professionalism and creative thinking that earned TBM Second Place in Sika Sarnafil's 2008 Project of the Year, Low Slope Category.

Currently the roof is now performing well without any problems, Hinesley said. "It was a very complex job but in the end everything turned out great!" Sounds like the "Batman Building" will not be sending out any roof distress signals any time soon.

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