

Project Profile



Project

BYU Wilkinson Student Center
Provo, Utah

Owner

Brigham Young University

Roofing Contractor

All Weather Waterproofing, Inc.
Salt Lake City, Utah

Architect

John B. Leggett Architect
Salt Lake City, Utah

Roof Consultant

Bart Smith
Brigham Young University

Roofing System

Mechanically attached
EnergySmart Roof® using 60 mil
Sarnafil® S327 membrane in white

Project Size

140,000 square feet

Completed

December 2011

Sika Sarnafil Roof Gets High Marks at BYU Student Center

Like a conscientious student getting ready to take an exam, the design and installation team for the new roof destined for the Brigham Young University Wilkinson Student Center had to do a lot of preparation before being *tested* by the installation. “This project was one of BYU’s largest and more difficult roof replacements and took over eight months to plan,” remarked John Moon, president of All Weather Waterproofing, Inc., of Salt Lake City.

The old roof was EPDM that had no slope and became “one big pond leaking all over the place,” Moon explained. According to Bart Smith, manager of building envelopes and exteriors at BYU, the university wanted a new roof that would add some slope and drainage, reduce air loss and have more thermal insulation. It would also need to survive foot traffic caused by trades servicing HVAC equipment and vents, have a 90-mph wind warranty, and offer a white reflective roof to keep the building cooler.

One system that met all this criteria was the Sika Sarnafil EnergySmart Roof in white. “We have used Sika Sarnafil’s roofing systems on other buildings on the campus, and we have a very strong working

relationship with them,” Smith said. “I knew their roofing system would meet all of our objectives.”

Installation Full of Pop Quizzes

The new roofing system involved tearing off the old roof to the deck (which also included tearing off the original BUR roof in some sections) and then installing Sika Sarnafil’s Sarnavap Self Adhered vapor barrier to make the building air-tight. A new, fully tapered insulation system and several roof drains were then installed to solve the drainage problem.

An additional layer of Sika Sarnafil’s Sarnatherm polyisocyanurate was then installed over the existing four inches of polyisocyanurate, for a total of six inches of insulation. “Some of the deepest areas of the tapered system exceeded 13 inches, which meant we had to frame and install new 14-inch parapet walls,” Moon stated.

A gypsum roof board was installed over the insulation and the Sika Sarnafil membrane mechanically attached over the entire roof assembly. Every mechanical unit had to be raised and brought into compliance with current seismic codes, as did the electrical and plumbing work.

All Weather Waterproofing faced several

Sika®

Sarnafil®

difficult challenges during the installation of the new roof. One was dealing with the surprises the crew experienced during the tear-off of the EPDM roof and parts of the original BUR roof underneath that. "The original building was constructed in 1961, and multiple additions and alterations have occurred since then" said John B. Leggett, principal at John G. Leggett, Architect of Salt Lake City. "That meant that All Weather Waterproofing was dealing with 20 separate roof areas on multiple levels, with inconsistent underlying and perimeter conditions."

"There were a lot of roof levels," Smith agreed. "We had portions of the building that were newer and had curtainwalls, and even though they weren't part of the reroofing project we had to change the elevation of the curtainwalls to accommodate the higher height of the new roof." In many places All Weather Waterproofing built new stairs and ladders between the different roof levels.

One Surprise after Another

Moon agreed that the installation was full of unexpected situations. "Sometimes we would tear off part of the roof to find that sections of the deck were concrete that we thought were going to be metal," Moon explained. "There were also many different types of insulation over the different decks."

Sharing a loading dock was another difficulty. "This was a very busy loading dock so we had to work off hours to load materials and equipment," Moon said.

Yet another challenge was installing the new roof without disrupting the students who use the Student Center day and night. The Wilkinson Student Center houses eateries, game rooms, ski shops, an administrative office, copy centers, an upscale restaurant, and several ballrooms. "It is the most used building on this campus of 33,000 students and is open 24-hours a day," Smith stated.

"Since the Student Center held classes and meetings during the day we worked on the



roof in the evenings and on weekends," Moon explained. "We also had to work around the schedule of the nationally acclaimed ballroom dancing team when we were working over the ballrooms." All Weather Waterproofing also had to put together a full safety package to meet school requirements.

There was also a seven-story tower that posed problems. In addition to being difficult to access, the tower also housed the upscale restaurant and banquet center. "When All Weather Waterproofing was working over the restaurant they had to shut off the vents," Smith said. "They had to do a lot of coordination with the eateries to make sure they weren't put out of commission during the installation."

Fortunately, Sika Sarnafil representatives were available to help with the details. "Their technical representative was there quite often and was very helpful," Moon stated. Leggett added, "The Sika Sarnafil sales and technical representatives were extremely helpful in working with us through any design challenges we had."

All Weather Waterproofing also received high praise. "They did a very good job on a very challenging project," Smith said.

"The construction phase of the project

went smoothly because of a good team effort between the owner, design team and contractor," Leggett remarked. "All Weather Waterproofing did a great job with the installation and quality control."

It was this professionalism that earned All Weather Waterproofing Second Place in Sika Sarnafil's 2011 Contractor Project of the Year competition in the Low Slope Category.

Extra Credit for Extra Work

Despite all the challenges, the roof is performing well and everyone seems pleased with the results. "I believe the roof is everything they wanted," Moon said. "It was a very challenging installation but fun."

"BYU is not the first institution of higher education to prescribe the use of Sika Sarnafil PVC membrane, and it appears to be the most durable, cost-effective and environmentally friendly product for low-slope roof applications," Leggett stated. "I would feel confident in specifying this product, or recommending its use, on similar projects in the future."

Smith is also pleased. "The roof is performing great and I'm very happy with it," he said.

Sometimes extra work is worth the extra credit.

Sika Sarnafil

A Division of Sika Corporation
100 Dan Road
Canton, MA 02021
Telephone: 1-800-451-2504
Telefax: 781-828-5365
usa.sarnafil.sika.com

Sika Sarnafil

A Business Unit of Sika Canada Inc.
6915 Davand Drive
Mississauga, Ontario L5T 1L5
Telephone: 905-795-3188, x4483
Telefax: 905-795-3192
can.sika.com