



SIKA AT WORK

MERCY HEALTH-WEST HOSPITAL CINCINNATI, OHIO

LOOSE-LAID WATERPROOFING SYSTEM
USING 80 MIL Sarnafil® G476 MEMBRANE

Sarnafil

BUILDING TRUST



SARNAFIL ROOF PROVIDES HEALING OASIS

It's not often that a roof is considered to be therapeutic. But the large vegetated roof on the Mercy Health-West Hospital in Cincinnati is considered to be very beneficial to not only its patients, but also to their families and to the hospital's staff.

"The green roof is a real enhancement to the healing environment," said Mike Stephens, Mercy Health, West Market President and CEO. "In addition to being a beautiful visual attraction, the roof features a therapy terrace for inpatient rehab, where patients practice walking on different types of surfaces as well as some stairs. Enjoying the roof is a clear and direct part of their therapy," he said, adding that studies have shown that exposure to nature and natural light improves patients' moods and reduces their stay. There is also a large meditation garden visible from a large window in the chapel.

The vegetated roof – the largest in Ohio – spans 2.5 acres and features more than 65,000 plants, all native to Ohio. Intensive, 30-inch high berms bearing prairie grasses and perennials swirl across the roof, "recalling the rolling hills of Ohio's ancient prairies," remarked Gary Meisner, President of Meisner + Associates of Cincinnati, the landscape architect on this project. "There is something soothing about seeing the wind blowing across the grasses. It is nature's choreography."

"We want every view out of a patient's room to be the most important view for someone who is not feeling well," stated Mic Johnson, the project's lead designer, now a Principal at Architecture Field Office of Minneapolis. "The skylights also allow natural light in middle areas of the hospital, so that staff and patients can sense the changing of the light during the day."

The green roof helps the environment as well. It is expected to absorb as much as 75 percent of the rain water that falls on it, significantly reducing the storm water run-off. The skylights and light wells also reduce lighting costs.

A WATERPROOFING SYSTEM TO EASE CONCERNS

There were several criteria that were considered when selecting the waterproofing system for this large and vital roof. "We wanted a waterproofing system that was cost-effective, had a solid warranty, was low maintenance, and could act as a root barrier," explained Krutarth Jain, Principal at Champlin Architecture in Cincinnati, the architect of record.

One solution that met all these requirements was the Sarnafil waterproofing system. "The Sarnafil system had a lot of things going for it, such as its compatibility with the Electric Field Vector Mapping®

PROJECT

Mercy Health-West Hospital
Cincinnati, Ohio

OWNER

Mercy Health

ROOFING CONTRACTOR

Tecta America Zero Company
Cincinnati, Ohio

ARCHITECT OF RECORD

Champlin Architecture
Cincinnati, Ohio

DESIGN ARCHITECT

AECOM with Mic Johnson, FAIA, lead designer
Minneapolis, Minnesota

CONSTRUCTION MANAGER

Turner Construction Company
Cincinnati, Ohio

LANDSCAPE ARCHITECT

Meisner + Associates / Land Vision
Cincinnati, Ohio

GREEN ROOF INSTALLER

Green City Resources
Cincinnati, Ohio

WATERPROOFING SYSTEM

Loose-laid 80 mil Sarnafil G476 membrane

PROJECT SIZE

111,100 square feet

COMPLETED

November, 2013





(EFVM) system, which uses pulses of low voltage electricity to detect leaks,” stated Matt Gennett, Senior Project Manager at Tecta America Zero Company of Cincinnati, the roofing contractor. “Sika also has a good relationship with us, which the architect liked.”

A NOT-SO-CALMING INSTALLATION

There were several challenges Tecta America Zero Company faced when installing the roof system. The system included fully tapered extruded polystyrene insulation, the EFVM, protective felt, the Sarnafil membrane, and a drainage mat. “The layout was very work-intensive, and included cutting and putting saddles in for drainage. It was a huge undertaking to do that,” Gennett remarked.

“It was also really taxing dealing with the other trades on the roof,” Gennett said. “Windows were being installed above us, so we had to have a lot of coordination and communication to get the job done on time. Fortunately, Turner Construction Company held weekly meetings with all the trades and understood what we needed.”

Another difficulty was the installation of the therapeutic stairs. “We had to work with the concrete trade to coordinate the pouring of concrete over the membrane,” Gennett stated. “We then had to go back and flash the membrane and install pavers and pedestals, which had to line up perfectly to accommodate different elevations of steps.”

In addition to the waterproofing membrane, Tecta America Zero Company also installed Sarnafil lead grey membrane on the walls and flashings, including 800 penetrations inside the various screen walls.

Meeting the project’s deadline was another priority, requiring a crew of 20 installers at times and scheduled work on weekends and at night. It was important for the roof to be completed on schedule because the overburden and the plants had to be installed before winter so that the green roof would be mature at the hospital’s opening a year later. “There is a fine line between speed and quality,” Gennett remarked. “We had to make sure that the integrity of the roof was our top priority at all times.”

Tecta America Zero Company also installed all of the overburden,

which included large gravel pathways that were 10 feet wide in some areas. “There was a lot of dust when we blew the soil up on the roof, so we sprayed water on the soil,” Gennett said. The curved berms were also a concern. “The berms had to be shaped properly, so we did a detailed layout for the contractors,” Meisner explained. “That was a little more difficult than laying things out flat.” Gennett pointed out that some of the larger berms required additional drainage.

“Tecta America Zero Company did a great job in providing manpower and doing all the things they needed to do as a roofing contractor to finish the job on-time,” remarked Don Holtz, Senior Project Engineer at Turner Construction Company in Columbus, Ohio. “It was important for us to get the building dried in as soon as possible so we could complete the building envelope while they installed the roof.”

Jain also praised the work of Tecta America Zero Company. “They were very professional,” he stated. “They resolved any issues that came up in a timely manner. Working with them was a good experience.”

It was this professionalism and attention to detail that earned Tecta America Zero Company first place in the Waterproofing Category of Sika Sarnafil’s 2013 Project of the Year competition.

Sika representatives also played important roles in the success of the project. “The Sika representatives helped us with the stairway detail and with other details that were very challenging,” Gennett said. “Their inspector was also very thorough. He was literally on his hands and knees probing the 2.5 acres of roof.”

A ROOF THAT PROMOTES RECOVERY AND REFLECTION

Today the green roof at the Mercy Health-West Hospital is leak-free and reaping accolades. In fact, patients often request roof-view rooms, according to Stephens. “Imagine looking out on a roof that has flowers and butterflies and birds instead of pavers and gravel,” Johnson stated. “The roof is a dramatic way to provide patients and families with a view of something that is dynamic and alive.”

“Leaders at the hospital receive lots of unsolicited praise about the roof as they make their rounds,” Stephens commented. “It really does enhance the patient and family experience here.”

MERCY HEALTH-WEST HOSPITAL



WHO WE ARE

The commercial roofing industry has relied on Sarnafil® brand thermoplastic single-ply membranes from Sika for more than 50 years to achieve sustainable roofing and waterproofing solutions. The company manufactures long-lasting membranes and systems, vapor retarders, insulation, fasteners, adhesives and proprietary hot-air seam welding equipment.

Sika is a specialty chemicals company with a leading position in the development and production of systems and products for bonding, sealing, damping, reinforcing and protecting in the building sector and the motor vehicle industry. Sika has subsidiaries in 84 countries, employs 16,000 people worldwide, and has more than 160 manufacturing facilities around the globe.

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