



SIKA AT WORK FRANK W. BALLOU SENIOR HIGH SCHOOL WASHINGTON, D.C.

ADHERED EnergySmart Roof® USING
72 MIL Sarnafil® G 410 MEMBRANE IN WHITE

Sarnafil

BUILDING TRUST



SARNAFIL ROOF MEETS HIGH REQUIREMENTS

The roof on the Frank W. Ballou Senior High School is notable for several reasons. First, it is part of a very visible, modern architectural gem in the historic Congress Heights neighborhood of Washington, D.C. Second, the 167,000-square-foot roof is part of the largest Department of General Services project completed in the last decade, making it one of the largest solar PV systems on any school in the country.

A roof this important cannot be trusted to just any roofing system, which is why the original specification for a hot rubberized asphalt IRMA system was eventually changed to a Sarnafil PVC EnergySmart Roof system.

“The main reason we went from the IRMA system to the Sarnafil system is because it is a high quality PVC and the light color reduces the Urban Heat Island Effect, which was important in the Silver LEED project,” remarked Miah Dancy, vice president at roof consultants Bluefin, LLC of Crofton, Maryland.

“Ballou is part of the largest on-site solar PV deployment for a municipality in the country, and Ballou’s solar PV system is one of the largest in the whole portfolio,” said Paul Lanning, managing director of Lightbox of Washington, D.C., energy consultants on the project. “When you have a membrane under a solar system like this one, you want a membrane that will last a long time, and few membranes have the track record that Sarnafil has,” he added.

“We love the weldability and durability of the Sarnafil membrane, which is why we install about 200,000-300,000 square feet of Sarnafil per year,” said John Maviglia, project manager at HRGM of Washington, D.C., the roofing contractor. “The roof also is a better fit for the school’s modern look, and Sarnafil adhesives, like Sarnacol 2170VC and 2163, allowed for installation in the cold weather.” This was crucial since the project, which started in December, was on a fast track to be completed in 13 months.

SETTING THE STAGE

The new high school is situated high on a hill in a dense urban area, so the first challenge HRGM faced was staging the project. “It was tricky getting the crane and material to the roof because of the steep incline leading into the courtyard,” Maviglia stated. “There was also limited space for the crane, dumpster and materials storage area, and all exterior staging areas had to be shared with other trades.”

In addition, the roof had 14 different sections, each at a different elevation with varying parapet conditions and challenging flashing details. HRGM used detailed planning to address this and the staging issues. “We could only access two locations at once by crane, so we developed a plan where we would move across each of the 14 roof sections individually, repositioning trash chutes and material to minimize disruption to other trades,” Maviglia explained.

PROJECT

Frank W. Ballou Senior High School
Washington, D.C.

OWNER

District of Columbia Public Schools /
Department of General Services

ROOFING CONTRACTOR

HRGM Corporation
Washington, D.C.

ROOF CONSULTANT

Bluefin, LLC
Crofton, Maryland

PROGRAM MANAGER

McKissack & McKissack
Washington, D.C.

ENERGY CONSULTANT

Lightbox
Washington, D.C.

ROOFING SYSTEM

Adhered EnergySmart Roof using
72 mil Sarnafil G 410 membrane in White

PROJECT SIZE

167,000 square feet

COMPLETED

January, 2015





GOING AGAINST THE CURVE

Other design elements also posed challenges. One of the most striking features of the school is the serpentine curtain wall surrounding the perimeter of the interior courtyard. “Although these serpentine walls added a level of beauty and uniqueness to the project, they also increased the complexity of the parapet flashing,” Maviglia commented. Due to extreme curves, the walls had to be flashed in very small sections to prevent billowing or bubbles in the membrane, which meant they were flashed at a much slower pace and with many more vertical seams.

There were also some 15-foot walls that were designed to have a metal panel cladding. However, since those walls were not visible, HRGM worked with the design team to replace the metal cladding with the Sarnafil membrane. “This required some heavy lifting on our part as we had to scaffold the walls and place a horizontal termination bar every 30 inches per Sarnafil’s requirements,” Maviglia said. “Fortunately, Sika and Bluefin representatives were with us every step of the way to help us engineer the design and develop creative solutions to problems.”

The new school was being built on the existing school’s football field, raising other concerns. “We had to worry about noise and safety of the students, teachers and administrators in that building, which was only 20 feet away from the construction site,” stated Tom Bizzarri, formerly with Chiamonte Construction, the general contractors, and now with Grunley Construction Company. “Fortunately, HRGM did a phenomenal job on all aspects of this installation. They really knocked it out of the park.”

“HRGM did a great job on a ridiculously fast schedule,” remarked Stephen Kitterman, program director at McKissack & McKissack of Washington, D.C., the program manager. Lanning added, “HRGM was great to work with. They did a lot of thorough documentation and were very good about working on the punch lists.” It was this professionalism that earned HRGM second place in the Sustainability Category of Sika Sarnafil’s 2015 Project of the Year competition.

ROOF PERFORMING BEYOND EXPECTATIONS

Even after experiencing a major snowstorm, the roof on the Ballou High School is performing very well. “The roof is doing great and I would definitely use the Sarnafil system again,” Darcy said. “We have been very pleased with the quality of the Sarnafil membranes.”

Bizzarri said that he “could tell from the get-go that Sika works hard to make sure the membrane is of high quality.” Kitterman added, “Sarnafil is the right technology and we find the Sika representatives to be very responsive to our needs.”

“The project is a huge success for the District of Columbia,” Maviglia remarked. “The finished product is a beautiful modern school that serves its community, all while being a landmark that is a source of pride. We are proud of our partnership with Sika to deliver such a beautiful, sustainable and cost-efficient roof.”



FRANK W. BALLOU SENIOR HIGH SCHOOL



WHO WE ARE

The commercial roofing industry has relied on thermoplastic single-ply membranes from Sika for more than 50 years to achieve sustainable roofing and waterproofing solutions.

Sika is a globally active specialty chemicals company. Sika supplies the building and construction industry as well as manufacturing industries (automotive, bus, truck, rail, solar and wind power plants, facades). Sika is a leader in processing materials used in sealing, bonding, damping, reinforcing and protecting load-bearing structures. Sika's product lines feature high-quality concrete admixtures, specialty mortars, sealants and adhesives, damping and reinforcing materials, structural strengthening systems, industrial flooring as well as roofing and waterproofing systems.

Our most current General Sales Conditions shall apply.
Please consult the Product Data Sheet prior to any use and processing.
ISO 14001: 2004-Compliant



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Green Globes® is a trademark of the Green Building Initiative

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