



BIOFOAM SOLVES PROBLEM THAT ELUDED ALL OTHERS

SPFA 2013 NATIONAL CONTRACTOR EXCELLENCE AWARD WINNING PROJECT (ROOF FOAM LESS THAN 40,000 SQUARE FEET)

Congratulations to Biofoam Inc., winner of the 2013 Annual SPFA National Contractor Excellence Award for SPF Roofing Less Than 40,000 Square Feet. These projects are examples of SPF's unique performance, applicability and appeal, in this case to a high-profile laboratory in Illinois.

FERMI NATIONAL ACCELERATOR LABORATORY'S (Fermilab) Meson Detector facility, located just outside Batavia, Ill., near Chicago, is a U.S. Department of Energy (DoE) national laboratory specializing in high-energy particle physics, the science of matter, space and time. A visionary facility when it was originally commissioned under a bill signed by President Lyndon B. Johnson on November 21, 1967, "it has given society some great results in science that touch each one of our lives without us ever knowing it," said Tiffany Flaim, president and owner of Biofoam Inc., a sustainable insulation and roofing contractor based in Chicago.

"When we were approached with the opportunity to work on this project,"

Tiffany said, "we were very sensitive to the high profile nature of the facility, its linkage to the Department of Energy, the importance of the work being conducted there, but also of the fact that we were one in a long line of companies that have attempted to solve the roof's leakage problems. We didn't want to be just another case study of failure, and we knew coming in with an SPF roof that we had the best chances of success compared to any previous efforts."

Deja-Vu

As it turns out, the roof had been a problem for quite some time. According to Elaine McCluskey, FESS Project Engineer quoted back in 2006, "The weakness lies in the corrugated steel

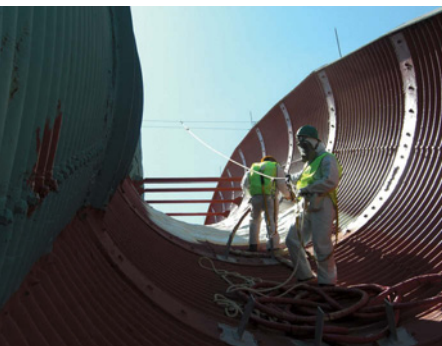


Previous repairs to the roof were not successful in keeping the leaks away.

arches, the ridges of which run perpendicular to the flow of the water. They do not encourage water to move from the roof." One can find articles dating back a long time documenting the lab's woes:

In 2003 the Fermilab online newsletter was quoted: "From its very beginning the fancy steel roof has been less than perfect at keeping rain out. Numerous attempts to seal the roof have failed, and scientists have learned to protect sensitive equipment by erecting waterproof enclosures within the building's vast interior."

In 2007 the Fermilab online newsletter was quoted: "The roof of the Meson Detector Building may be unique, but it leaks. The building's 12 arches are lined with ridges, leading to puddles that trickle through crevices between the





roof's steel plates. Over the years, much of the building's equipment had to be protected under sheet metal coverings. 'We had to build roofs under the roof,' said Erik Ramberg of PPD, who spends more than a quarter of his time in the building. Bob Webber of AD added that the leaks 'create slippery and dangerous conditions' for workers."

Additional articles and PowerPoint presentations from aspirational roofing companies can also be found online documenting the problems and their sure-solutions. All claimed to have the answer to solve the lab's leakage. Unfortunately, the lab's desire to have an architecturally unique roof destined it for déjà-vu like situations, repeated discussions of leaks, failed-solutions, and recurring impacts to the lab's scientific effectiveness every few years. Nothing worked, and the lab began to represent a joke to the community, a hazard to the workers in the building, and a threat to the exceptionally expensive and sensitive scientific equipment housed in the building. "This also amounted to negative funding impacts upon the lab and the Chicagoland area," said Flaim, "as one major part of the ongoing funding was associated with scientists being able to travel to the lab from all over the world to conduct experiments uniquely available here."

Game-On

Biofoam won the contract with the DoE's federal contractors, Trinity ERD and BuiltWorks LLC, both of Seattle, to install 3 inches of Bayer Bayseal 2.7 lbs. SPF roofing and coatings designed to recreate the blue and terracotta orange colors, over the roughly 40,000 square

foot roof. The contractor "seemed to really know what they were looking for this time with SPF because they were looking for a permanent solution, and had conducted several studies that evidently showed them SPF was the best solution," offered Flaim.

Biofoam crew members had to deal with several concerns on the project, ranging from the very unique sloping and curved roof substrate, to radiation training and regular safety meetings with the facility's leadership. Every crew member had to demonstrate their compliance with relevant OSHA training and testing, and PPE was of utmost importance. The crews all had to utilize tie-off lines mounted at the highest points across the length of the building and repel down the chute of the half-pipe. Despite the exterior installation providing enormous natural ventilation, all sprayers used OSHA-compliant fresh air respirators, helpers wore appropriate cartridge filtered masks, and everyone wore gloves, Tyvek suits, hardhats and protective footwear.

Success!

SPF was selected due to the architecturally unique design of the roof system that created some challenging transitions. The fact that finished SPF is formed onsite and can reliably conform to almost any geometry made it possible to "custom fit" the roofing for the building. The high insulative properties unique to SPF roofing eliminated the roof leaks associated with thermal expansion and contraction on the metal roof components. Additionally, the insulation also helped with the condensation problems that were occurring in

the winter, which combined with the increased thermal performance of the roof will allow much greater comfort for research work done during the cold winter months.

According to Flaim, the project was not particularly challenging or obstacle-ridden compared to others. "The crews needed to meet some unusual safety and security requirements for work on the federal laboratory grounds but overall this was a great project for us. It was great to have such a project and the exposure that comes with it in our home market. We were done in about one week (compared to the previous failed reroofing efforts that displaced workers for up to two months), we had no incidents, and everything went very smoothly. Really what this came down to was a sense of competition – the facility had suffered for a long time and we wanted to be instrumental in finally getting it safe, fully operational and leak free in a way that previous roofing materials and crews were unable to do. I think we and the SPF nailed it and that feels really great."

Biofoam (www.biofoamusa.com) started out as a high-end residential insulation company specializing in spray polyurethane foam and has emerged as the leading Midwest installer of SPF insulation, SPF roofing, waterproofing, and intumescent fire proofing in residential and commercial markets, and for new and existing structures. BIOFOAM works closely and directly with the industry's top manufacturers to offer a full range of energy conservation solutions for its clients. While BIOFOAM is predominantly a regional company, the services are available nationwide on a project basis.

Bayseal® SPF wall and roofing insulation and Bayblock™ acrylic and silicone roofing coatings (www.spf.bayermaterialscience.com/) are a key component for creating thermal and moisture protection critical to high performance homes and commercial buildings. Bayer MaterialScience LLC works with design professionals, building owners and contractors to formulate customized spray polyurethane foam systems for commercial and residential perimeter wall insulation, roof insulation and waterproofing applications. These energy-saving solutions have become an essential ingredient in many of today's green building initiatives. ○