

Project Profile



Project

General Motors Customer Care
& Aftersales Building
Lansing, Michigan

Owner

General Motors Corporation

Roofing Contractor

National Roofing
& Sheet Metal Co., Inc.
Burton, Michigan

General Contractor

The E & L Construction Group
Flint, Michigan

Roofing System

Mechanically-attached
60 mil Sikaplan membrane
in white

Project Size

220,000 square feet

Completed

July 2010

GM and Sika Sarnafil Drive Largest Vinyl Roof Recycling Project in North America

General Motors Company likes to think green.

In 2008 it announced that it planned to convert half of its major manufacturing plants around the world into landfill-free operations by the end of 2010. GM now has 74 manufacturing plants across the globe that do not send waste to landfills. On average, more than 97 percent of waste materials from these plants is recycled or reused and about 3 percent is converted to energy at waste-to-energy facilities.

John Bradburn, staff environmental engineer at GM and manager of GM's waste reduction efforts, says that his job "is to minimize waste with an aggressive program to recycle and repurpose things on the manufacturing side." However, he believes that these recycling and environmental improvements should "also extend into the building structure side of business."

That's why he and colleague Carl Reinke, GM project manager, were excited to have recycling be part of the plans to reroof a major portion of an old PVC roof on a GM Customer Care & Aftersales (CCA) building in Lansing, Michigan.

The Lansing project was done in two phases over a two-year period and, in total, involved two different contractors and the reroofing of 475,000 sq. ft. of roof.

Because there were two layers of PVC roof removed from the building, nearly one-million square feet of membrane, equaling 140 tons, was recycled as part of this project – making it the largest known roof recycling project in North America. This material has been recycled back into Sika Sarnafil roofing membrane products.

National Roofing and Sheet Metal of Burton, Michigan, was responsible for phase two. The company removed two layers of vinyl roofing totaling 440,000 square feet for recycling, and then installed 220,000 square feet of reflective, energy-efficient Sikaplan. The company had to remove more than two and a half million pounds of ballast before the old roof sections could be removed.

"The recycling effort on this CCA building fits in perfectly in extending our environmental stewardship," Bradburn stated. "We see waste as a resource. It is all about being more efficient and responsible with our products and resources. We hope this will set an example in both the construction and automotive industries."

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Mapping for Success

Carl Reinke had been put in charge of all of GM's reroofing projects in North America in 2009. Reinke approached National Roofing & Sheet Metal, a company that had done numerous reroofing projects for GM in the past, and asked them if recycling the old membrane could be part of the roof replacement process.

"We had never done a PVC roof recycling project before, but we have done lots of work with Sika Sarnafil and knew they had an established recycling program," Todd Sova, superintendent of National Roofing said. "We asked Sika Sarnafil to explain the recycling program, and they were very helpful. Because of our great relationship with Sika Sarnafil and the fact that they had the best recycling plan of all the roofing manufacturers, we chose to go with them when we bid this project."

Reinke added, "To my knowledge Sika Sarnafil is the only manufacturer who does the recycling themselves, and we saw that as a real benefit."

Steering Clear of Hazards

The first phase of the recycling and installation was completed in 2009, and the second phase in 2010. GM has a policy that reroofing projects cannot hinder the functions of the buildings in any way, so the CCA building remained operational throughout both phases.

"Fortunately we were using the Sika Sarnafil Sikaplan 60 mil membrane, which comes in 10 x 100 foot rolls, and that really helped us pick up the pace," Sova stated.

Once the existing insulation and membrane were removed, the old membrane was cut into 36-inch strips, rolled up and then tack welded to keep the strips from unrolling. Following this the rolls were put in gaylords, which were placed on pallets, and then loaded into a semi truck and shipped to Sika Sarnafil's recycling facility. The process was repeated with the original vinyl roof layer, which had been left in place when the building was previously reroofed.



"Even though it was a bit more work, I really enjoyed the recycling aspect of this job," Sova said. "When you see the semi trucks driving away with all this material that normally would just go into a landfill, you just can't help but feel good that this material instead is going to be reused in membrane products that will go back out and provide decades more of service."

"National Roofing did a great job and had a great production rate," Reinke said. "They ran into some surprises with some rusted corrugated metal decking, but they quickly dealt with those unforeseen problems. I was very satisfied with their work."

Taking the High Road

Sova said he is eager to do another recycling project with Sika Sarnafil. "I really like to

see the tear-off roofing membrane being recycled – it gives me a real sense of pride," he explained. "I consider National Roofing a green company."

Sova added that building owners need to view the recycling as a benefit – which is something he certainly saw at General Motors. "Everyone at General Motors was very excited and happy to see this being done," he stated.

"I would definitely use the Sika Sarnafil recycling program again," Reinke said. "The GM managers were very happy with the recycling portion because being green is so important to everything GM does."

Bradburn is also very excited and pleased with the project. "I am happy and proud to be a part of this, and really appreciate the work of Sika Sarnafil in recycling. It really does point to the company having a good customer relationship and end-of-life solution for older roofs," he remarked. "Sika Sarnafil did a great job in the recycling process and the fact that they can reformulate the old roof into another membrane product is fabulous. I think this is a step in the right direction and a good trend that is happening worldwide."



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The Sarnafil logo, featuring the word "Sarnafil" in a bold, blue, sans-serif font with a registered trademark symbol (®) to the right.