

# Project Profile



## **Project**

Gallatin County  
Upper Elementary and Middle School  
Warsaw, Kentucky

## **Owner**

Gallatin County Schools

## **Roofing Contractor**

Tri-State Roofing & Sheet Metal Company  
Lexington, Kentucky

## **Architect**

RossTarrant Architects  
Lexington, Kentucky

## **Roofing System**

Adhered EnergySmart Roof® using  
white 60 mil Sarnafil® G410  
membrane

## **Project Size**

69,000 square feet (roof)  
97,636 square feet (building)

## **Completed**

August 2007

## **Sika Sarnafil and Gallatin Schools Teach Lesson in Going Green**

When it comes to teaching about “going green,” the Gallatin County Upper Elementary and Middle School in Warsaw, Kentucky has a lot to be proud of. Not only did the new school building garner the ENERGY STAR® label from the United States Environmental Protection Agency, designating it as one of the most energy efficient buildings in the nation, but the building was also identified as the most energy-efficient middle school in the entire state of Kentucky.

The facility houses two schools — the upper elementary school and the middle school — within one building. It was built to accommodate students in fourth through eighth grades, and designed for 300 upper elementary students and 400 middle school students. While each school has separate administrative and classroom wings, they share common areas such as the gymnasium, cafeteria, media center, and band and art classrooms.

RossTarrant Architects of Lexington, Kentucky designed the buildings to be as energy efficient as possible. “RossTarrant is very earth-friendly and committed to being

responsible consumers of the environment,” said Dot Perkins, superintendent of Gallatin County Schools. “We did everything we could afford to make this building ‘green,’” said Perkins. “The building uses geothermal technology throughout, utilizes natural lighting, has automatic flushing toilets, and sports a white reflective roof to reduce cooling costs.”

The reflective roof used on this building was a Sika Sarnafil adhered, EnergySmart Roof® system, which has been shown to significantly reduce a building’s energy expenses related to air-conditioning. The light color of the membrane reflects the sun’s rays, decreasing heat flow through the building envelope and thus reducing the energy required to cool an air-conditioned building. “Even during construction and before the HVAC system was installed, the building stayed cool because of the reflective Sika Sarnafil roof,” said Debra Shockley, quality control manager at RossTarrant Architects.

## **White Equals Green, and Then Some**

Shockley added that in addition to its reflective membrane, the Sika Sarnafil roof offered other advantages. “We were looking for a roof that would offer longevity, and is

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installed by a trained contractor base," she said. "With those features, and its reflective membrane, Sika Sarnafil has become our 'go to' single-ply roofing system."

Bill Graves, president of Tri-State Roofing & Sheet Metal Company of Lexington, Kentucky said, "RossTarrant specified a PVC (polyvinyl chloride) roof. Sika Sarnafil is known for the quality of their PVC product, which is why, if we have a choice, we use Sika Sarnafil roofing systems."

### Elements Pose Challenges

Although the installation of the 69,000-square-foot roof was pretty straightforward, Graves said the weather did create some challenges. "We started the job in December, so had to deal with frost and dampness," he stated. The roof was installed over lightweight insulated concrete, so Graves said timing and planning was an important part of the job's success. "Five different roof areas were constructed and roofed, one at a time, requiring separate set ups to install the insulating concrete."

The substrate was a metal deck with six inches of insulation installed in a slurry coat of lightweight concrete and topped with Siplast LWC to obtain the required slopes.

After the concrete was properly cured and dry, the feltback white 60 mil G410 membrane was installed by Tri-State Roofing. "We used a solvent-based adhesive in winter, but once it turned warm we changed to the water-based adhesive," Graves explained. The seams of the membrane were hot-air welded, creating a monolithic sheet of membrane.



Graves said that the detail work on the roof included "lots of metal wall panels — we used the Sarnafil extruded aluminum fascia and the Sarnafil Edge-Tite perimeter edge attachment. It was very easy to put on and resulted in a nice clean roof."

He added that Sika Sarnafil representatives were there to help when needed. "They have tough inspectors, but we like that," he remarked. "We'd rather find out about any potential problems during the installation rather than later. Plus, the Sika Sarnafil people are great to work with. We can tell they are very comfortable with us and our applicators."

Added Shockley, "The Sika Sarnafil representatives were very helpful in making sure we chose the right membrane and system."

### Tested by Time – and a Tornado

In 2009 the remains of Hurricane Ida spurred several tornados in Kentucky, including one that went right through Gallatin County. "This tornado caused straight line winds in town, but when we had some people look at the Gallatin County Upper Elementary and Middle School roof there was no damage," Shockley said. "The roof performed very well."

Today the roof continues to do admirably. "We have been very pleased with the roof," said Perkins. "It did very well through the wind storm and it has been a real help in keeping cooling costs down."

Perhaps the biggest compliment a school can give is a promotion to another school — which is just what Gallatin County Schools is doing. "We liked the Sika Sarnafil system so much that we are now putting it on another school building," Perkins stated.



### Sika Sarnafil

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

### Sika Sarnafil

A Business Unit of Sika Canada Inc.  
6820 Davand Drive, Unit 2  
Mississauga, Ontario L5T 1J5  
Telephone: 905-670-2222  
Telefax: 905-670-5278  
www.sika.ca