



## **Project**

Zorn Dining Commons  
Keene, NH

## **Owner**

Keene State College

## **Architect**

Shepley Bulfinch Richardson  
and Abbott  
Boston, MA

## **Roofing Contractor**

The Melanson Co., Inc.  
Keene, NH

## **Roofing System**

Adhered Roof System, G410, 60 mil  
white EnergySmart Roof® mem-  
brane (flat portions) and Decor  
Roof System, G410, 60 mil mem-  
brane in lead grey (sloped portions)

## **Project Size**

39,300 sq. ft. (21,800 flat,  
17,500 sloped)

## **Completed**

August 2005

## **Sarnafil Fits “Monumental” Roofing Needs**

When Keene State College was looking for a design for its new student dining facility, it didn't take the selection process lightly. “Where students sleep and eat is just as important as where they learn,” said Frank Mazzola, director of physical plant operations at Keene (New Hampshire) State College. “That's one reason why the Zorn Dining Commons was such a monumental project for Keene State. Not only is it the only dining room on campus, but it is also right in the middle of the college grounds, and so it had to have attractive roof and building lines.”

Mazzola admits that he was concerned when he saw the early concept of the building, which included 20-plus pyramid shapes on the roof. “I saw every one of those pyramids as an opportunity for a leak,” he stated. “But the design was striking and we went forward with it, though I did keep a weary eye on how the details were being done for those pyramids.”

One factor that put Mazzola at ease was the decision to go with the Sarnafil Adhered Roof System, 60 mil G410 white, EnergySmart Roof® membrane on the flat portions of the roof and Sarnafil's Décor Adhered Roof System, G410 60 mil membrane in lead grey on the sloped portions and pyramids. “We have had exceptional performance from Sarnafil roofing systems on this campus, and have them installed on hundreds of thousands of square feet of flat roofs here,” he explained.

## **One Roofing System Offered Cost, Warranty Advantages**

Originally a TPO roofing membrane with a 24 gauge metal roofing system was specified for the roof, according to Todd Watkins, chief estimator and vice president at The Melanson Co, Inc., a roofing contractor based in Keene, NH. “We thought it might be better for Keene State to have only one roofing system, because that way everything is tied in together and there is only one system, one manufacturer and one warranty,” he stated.

The Melanson Co. has over 20 years of experience installing Sarnafil roofing products, and so recommended the Sarnafil Décor system, which provides the look of a metal roof with the advantages of a heat-weldable, single-ply, PVC membrane. The Melanson Co. said that going with the Sarnafil alternative would save upwards of \$150,000 to \$200,000, and after evaluating the cost savings and the appearance the owner made a quick decision to go with the Sarnafil systems.

### Pyramids Pose Predicaments

Another advantage to the Sarnafil system was that it would be easier to install than standing seam metal in the pyramid areas and would also be more watertight, according to Bob Hardy, project manager and vice president at The Melanson Co. The pyramids were approximately 24' x 24' with a 7/12 slope. Between the outside edge of the roof and the pyramids there was a built-in, narrow (18 inches to 2 feet wide) gutter-like area that featured the Sarnafil membrane over tapered insulation, which was constructed to divert water from the pyramids towards interior drains.

"With a metal roof system there is concern about snow building up in the gutters and creating ice dams that would leak through the mechanical seam locks," Hardy explained. "However, with the Sarnafil system all the joints and field seams are hot-air-welded, so there are no concerns about snow backing up. As a result we could offer the owners a watertight warranty, which was not available with the standing seam metal roof."

Watkins added, "We used membrane flashing to tie the two systems together so there is no transition between the two roofing systems. It is all one monolithic membrane."

The installation of the 20 pyramids – 16 of which had skylights on one side — was "very challenging," according to Hardy, because four or five of the pyramids can be viewed from a conference room in a nearby building, so the installation of the membrane and profiles had to be "absolutely perfect." Hardy added, "sometimes the installers had only one



Workers install Sarnafil's Décor Roof System on one of the pyramids.

chance to get it right. But they were excited about being challenged in this way and took pride in producing a finished product that the entire community could see."

The Melanson Co. also faced challenges with details at the building's perimeter and the termination against the skylights of the pyramids. "We worked with Sarnafil's technical services on these details, and they were absolutely fantastic," Hardy said. He added that one of the details used to accommodate the flashing of the extruded metal edge on the building would've been very difficult to achieve with the originally specified TPO.

The Melanson Co. also suggested changing the original tapered extruded polystyrene insulation spec to Sarnatherm polyisocyanurate insulation. "This allowed us to eliminate the gypsum board fire barrier on the deck and the Dens Deck cover board and still meet the specification's fire requirements," Watkins explained. "This resulted in substantial savings in labor and materials."

### An Impressive Result

According to Hardy, the Zorn Dining Commons building, which was completed in August, 2005, is "absolutely gorgeous inside. It is comfortable and warm and bright – like walking into the lobby of an art museum." Mazzola reports that "to my total satisfaction the building has

been through a complete winter and spring, and we have not experienced a single roof leak – despite all the pyramid skylights and numerous penetrations on the roof for mechanical systems. We are very happy."

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