BlazeMaster®
FIRE SPRINKLER SYSTEMS

Case Study

Renovation of 110-year-old freshman hall creates challenging fire sprinkler retrofit

Type of Construction:
Dormitory

Installation Type:
Retrofit

Location:
Atchison, Kansas

Scope of Project:
Heads: 540
Sq. Feet: 59,000
Stories: 6

Fire Sprinkler Contractor:
J.E. Dunn Construction Company

Benedictine College Chooses BlazeMaster® CPVC System to Preserve Historical Architecture and Minimize Project Costs

Like many campuses across the country, Benedictine College in Atchison, Kansas (about one hour north of Kansas City), not long ago found itself in need of additional student housing due to an increase in its student population. The administration first turned its attention to its old Freshman Hall (now called Ferrell Hall), which had remained empty since the 1970s.

The building, which was built in 1893, had originally served as a monastery – home to the monks who lived there. Years of abandonment, combined with a badly leaking roof that had collapsed in some areas, had taken its toll on the hall, which now required a full renovation before it could be inhabited again. In addition, current codes further mandated that the building be sprinklered before students could move in.

J.E. Dunn Construction Company was hired to serve as General Contractor for the renovation.

"We knew this would be a challenging project," explained Jeff Kleinschmidt, project manager at J.E. Dunn. "In the bell tower, the roof had actually collapsed and 10-15 percent of the hall had severe water damage. Partially because of the major expense to repair the roof, this became a $7 million project for us."

Complicating the renovation work was the desire to maintain the building's historical architecture. And, as is the case with most private colleges, the administration expressed concerns early on about adhering to a very tight budget.

"Following the competitive bid process, the successful bidder, National Fire Suppression (a division of Western States Fire Protection), was asked to recommend ways we could reduce the fire protection costs," noted Kleinschmidt. "They recommended the installation of a BlazeMaster CPVC system, not only for cost reasons, but also because it could adapt best to the tight, uneven spaces of this very old building."

Steve Swalwell/Architectural Fotographics

Kleinschmidt himself, however, was not familiar with CPVC as an alternative to traditional metal systems. "My biggest concern was verifying that it would satisfy local code requirements and that the local authority was comfortable with it," Kleinschmidt said. "But it turned out that no one had any problems with CPVC. The City cleared its use and there were no objections from the State Fire Marshall. The college even checked with its insurance carrier to make sure everything was approved and covered."

Kleinschmidt describes the installation of the BlazeMaster system as quick and flexible. "I think we probably avoided above-ceiling conflict issues that we weren't even aware of by going with CPVC," he said.

Craig Barulich, sales representative for National Fire Suppression/Western States, agrees. "There is absolutely no way we could have done what we did with a metal system," noted Barulich. "We were asked to leave all of the original architecture in place. That meant working within very tight spaces and in walls that often weren't parallel. The flexibility of the CPVC pipe was essential. We did not have to re-do or change any of the existing structure."

Today, based on his experience at Benedictine College, Kleinschmidt is a supporter of CPVC. "Whenever there is an existing building, especially an older one, there appears to be an advantage in using CPVC," Kleinschmidt commented.

Now listed for more types of applications than any other non-metallic system.

"With a renovation project, there are many unknown factors. You never know what you'll encounter behind the walls. That's challenging with a metal system which requires the pipe to be pre-fabricated off-site. With the BlazeMaster system, they were able to cut and assemble in the field and make any necessary, last-minute changes. In addition, we avoided all of the mess associated with a metal installation."

Since BlazeMaster CPVC fire sprinkler systems are installed using a one-step solvent cement joining system, there are no messy, time-consuming welding operations. And since torches are not needed to install a CPVC system, there is an added safety benefit which eliminates the risk of an accidental fire. For these reasons and others, BlazeMaster CPVC fire sprinkler systems are listed for more applications than any other non-metallic system.

Barulich points out that the selection of a BlazeMaster CPVC system over metal also results in a more cost-efficient installation. Because the system is faster and easier to install, owners realize a major labor savings. And the CPVC pipe is also lighter in weight which makes it easier to move on the job site.

"We find that many times an engineering firm may initially specify a metal fire sprinkler system," said Barulich. "Then we show them the cost savings, along with the added benefits, and most often they are convinced to switch."

Steve Swalwell/Architectural Fotographics

In the case of Benedictine College, that decision paid off. Expenses were minimized. And more importantly, the beautiful architecture and charm of the original structure were preserved. As a result, in 2002, the college and its newly restored Ferrell Hall received an Award of Excellence from the Kansas Preservation Alliance. Benedictine College also received an Honorable Mention in the 2002 *Education Showcase for College Planning & Management* magazine.

"I don't know how we could have met the demands of this project without the BlazeMaster CPVC alternative," said Barulich.

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