BlazeMaster®
FIRE SPRINKLER SYSTEMS

Case Study

Sigma Alpha Epsilon Becomes First Sprinklered Fraternity At Mount Union Campus.

Type of Construction:
School/Dormitory

Installation Type:
Retrofit

Location:
Alliance, Ohio

Scope of Project:
5,000 ft. of BlazeMaster Pipe and 100 – 120 Sprinkler Heads

Fire Sprinkler Contractor:
M.W. Mielke, Inc.

Combination of BlazeMaster® CPVC Fire Sprinkler System and Grice Soffi-Steel™ System Make Ohio Life Safety Project Feasible and Affordable

When Lee Miller returned to Mount Union College in Alliance, Ohio, for his 25th year class reunion back in 1987, he was dismayed to find his old Sigma Alpha Epsilon fraternity house in shambles.

"What I saw was an ugly building in really bad condition," said Miller. "After many years of abuse, the building was in desperate need of major renovation, including everything from plumbing and wiring upgrades to fixing holes in the walls."

It took time to establish the priorities, hire an architect, draft a complete set of drawings, secure an $85,000 loan from the national fraternity (which is North America's largest social fraternity with more than 270,000 initiated members) and then go out for bid. But by 1990, the overhaul began on the 11,600 square foot facility. Nearly 13 years later, the finishing touches have been completed, including the installation of a smoke and heat detection system and a BlazeMaster® CPVC fire sprinkler system.

"Today, when we think about how important fire sprinklers are to saving lives, we often wonder if we should have done the sprinkler system first – but then again most of what we did first helped prevent the risk of fire," said Miller, who has been the Alumni Advisor for the Mount Union College Chapter of Sigma Alpha Epsilon since 1988.

"It is also appropriate to note that interfacing with the undergraduates during twice-a-week visits builds friendships that translate into concern for their well being and safety. I've really gotten attached, and knowing the Greek community has lost a number of undergraduates to fires over the past few years further strengthened my concern for fire safety," said Miller.

The recommendation to specify a BlazeMaster® CPVC system came from another member of Sigma Alpha Epsilon and graduate of Kent State

University – Dave Mielke, president of M.W. Mielke, Inc., a mid-sized mechanical contractor based in Medina, Ohio. After reviewing the property he recommended a BlazeMaster® CPVC system.

"There just wasn't any other choice," said Mielke. "We knew the project would be too cost prohibitive if we used steel. With the space and structure we had to work with, I estimated it would have cost at least 50 percent more had we used steel, so we quoted the job from the beginning using BlazeMaster® CPVC pipe."

In addition to the significant cost savings, Mielke cited job site conditions as another reason why BlazeMaster® CPVC pipe was the only option.

"Considering the conditions we had to work with, the job would have been too difficult using steel," explained Mielke. "Because of the age of the facility, which was originally built in 1908 as a private residence, we faced a number of challenges that were atypical when retrofitting an old structure. First there were all the tight spaces and numerous small rooms which required some engineering flexibility on the part of the system. Then there were the walls that didn't line up. Plus, there had been several additions to the original structure before it first became a fraternity in 1939. This caused uneven ceilings and multiple walls and layers of drywall."

One of the more dramatic features of the house was a beautiful 50 ft. x 16 ft. vaulted ceiling ballroom creating some unprecedented challenges

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

that were minimized with the use of CPVC pipe. But Mielke can boast that his crew completed its work with zero damage to this magnificent structure. "This was, without a doubt, the most challenging aspect of the project", said Mielke. "There is just no way that we could have accomplished it using steel."

Complicating matters was the tight deadline. "Our window for completion was during summer vacation," noted Mielke. "That meant we had roughly ten weeks to install about 5,000 feet of pipe and 100-120 sprinkler heads. We could not have accomplished what we did during that time frame with steel."

"The BlazeMaster® CPVC alternative allowed us to complete our work on time," said Mielke. "It's faster and easier to install and it's lighter in weight, which is a big benefit when you've moving materials into small places like an attic. And when you're done, clean-up is also faster and easier. With steel, you're left with oil and pipe debris. But with BlazeMaster® pipe, you can cut it by hand and there are no shavings and little mess. That's also critical when you're working in a finished space like a fraternity house where you're up over the beds and television sets and working around student belongings."

Key to the easier, cleaner installation of the BlazeMaster® CPVC system is a one-step solvent cement joining system that not only eliminates the need to solder, but also creates a permanent, reliable bond within minutes.

"It's ease of installation means a serious labor savings," added Mielke. "And that allows me to be more cost competitive. The tighter the space and the more offsets required on the job, the greater the labor savings using CPVC pipe."

For a fraternity that needed to finance its own work, cost savings was paramount. "I knew we couldn't afford to do it if steel was used," said Miller, who claims to have practically grown up in the electrical industry selling plastic conduit back in the 1960s. "But we also needed a good end result, and we couldn't be happier. This is a "home", not a dormitory, and despite the lack of TLC prior to the renovation, it is as nice as many private homes and a facility that we are proud to show to any parent. All of its original charm has been maintained, including the dramatic ballroom, formal living and dining rooms, sunroom and even the maids' quarters over the garage. With the enhancements we've made, it is now as good, if not better, than any fraternity house on campus."

As a finishing touch to the project, and in an effort to maintain the aesthetic beauty of the home, as well as protect the pipe from vandalism, Mielke recommended that the BlazeMaster® pipe be concealed with a Grice Engineering Soffi-Steel™ System wherever the fire sprinkler pipe was not hidden behind a wall or ceiling. Available in various finishes and sizes, the Soffi-Steel™ System is custom-made to meet very specific project needs.

For Miller, the concealment of the pipe was essential. "I don't care if it's steel or CPVC," he said. "To leave pipes exposed in this beautiful home would have been a shame and disappointment to one and all."

Al Stowers, contract sales manager at Grice Engineering, described the partnering of BlazeMaster® CPVC pipe with his Soffi-Steel System to be the perfect match. "Since this was essentially a residential application, the ceilings weren't as high," noted Stowers. "With the BlazeMaster® system, you can use smaller pipe and couplings. It's more adaptable to unusual spaces, which makes it easier to cover up and still maintain adequate head room beneath the lower ceiling. Had metal pipe been used on the project, it would have taken us longer to install the soffit and it would have increased the soffit size, thus increasing the material cost, as well as the labor cost."

Cost efficient. Fast and easy. Clean. And aesthetically pleasing. These were the reasons why Mielke and Miller opted for the combination of a BlazeMaster® fire sprinkler system and Soffi-Steel for this very challenging project.

"Now that it's done, I hope our experience and relatively small investment might serve as an example to other fraternity houses around the country," said Miller. "You just cant' afford not to protect lives. And with the BlazeMaster® CPVC system, we were able to prove that life safety can certainly be affordable."

For more information, call 888-234-2436, e-mail blazemaster@blazemaster.com or visit www. blazemaster.com

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