

CASE STUDY

BlazeMaster® FIRE PROTECTION SYSTEMS

WAKE FOREST

Winston-Salem,
North Carolina

TYPE OF CONSTRUCTION:

Dormitory

INSTALLATION TYPE:

Retrofit

SCOPE OF PROJECT:

Heads: 1,600

Sq. Feet: 232,000

Stories: 3 to 4

CONTRACTOR:

Worsham Sprinkler

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- David Brown

BLAZEMASTER® QUICKLY RETROFITS RESIDENCE HALLS FOR STUDENTS & PROVIDES IMMEDIATE RELIABILITY



When five students died tragically in a fire at the University of North Carolina in 1996, many universities across the United States reevaluated their fire suppression systems. At Wake Forest, in nearby Winston-Salem, N.C., the tragedy hit close to home. In quick order they knew they needed to embark on an ambitious program to retrofit all campus housing with fire sprinkler systems.

At first, the university turned to what they knew: a steel fire sprinkler system. Then, their need for a reliable system, coupled with real world scheduling and retrofit challenges, led them to BlazeMaster.

When the project began, Wake Forest started small: retrofitting one residence hall with a steel fire sprinkler system—an endeavor that proved to be time and labor intensive. The design of the steel system required extensive field survey, which could not be performed until students vacated the residence halls for summer recess. And, design and fabrication pushed the installation period perilously close to the date students returned from summer vacation.

Other challenges with retrofitting older residence halls included the need for installation tight against exposed ceilings, installation in small spaces above existing dropped ceilings, and field revisions due to unforeseen obstructions.

After the initial residence hall installation, University officials knew that they would either need to limit the size and scope of the work—or find a better solution.

Worsham Sprinkler, one of the contractors working on the project offered the ideal solution. “We advised Wake Forest to use a BlazeMaster® Fire Sprinkler System to ensure that the installation could be done on time and without the problems associated with the design and fabrication of steel pipe,” said Carl Jackson, Vice President for the Charlotte office of Worsham Sprinkler, “We also wanted to demonstrate to Wake Forest the features and benefits of a BlazeMaster® Fire Sprinkler System.”

Worsham Sprinkler had used a BlazeMaster system in similar jobs, and they knew it led to faster, easier installations.

Wake Forest sent some of its staff to visit a nearby university, where BlazeMaster® Fire Sprinkler Systems were being used for a dormitory retrofit. Recognizing that the retrofit proved successful even in large, older buildings, the Wake Forest staff approved BlazeMaster® Fire Sprinkler Systems for all campus housing.

Work began quickly. Because CPVC pipe does not require pre-fabrication, Worsham was able to reduce design time



so field installation could begin immediately after the students vacated the residence halls. The first summer, Worsham retrofitted two residence halls, totaling 100,000 sq. ft., with BlazeMaster®. The following year, they completed three more residence hall retrofits, a total of 132,000 sq. ft. The final summer, the university completed the last four campus housing retrofits.

Other advantages of BlazeMaster® were the long-term reliability due to its corrosion resistance, low flame spread, low smoke emission levels and a 50-year life expectancy based upon a safety factor of two. CPVC piping lasts much longer and requires less maintenance compared to metallic piping systems.

But, at the end of the day speed—coupled with reliable performance—made the difference. With CPVC pipe, field changes could be made quickly and easily. Worsham installed BlazeMaster® pipe in many spaces where rigid, threaded steel pipe would have required difficult, costly cutting and re-threading.



In fact, in one summer, Worsham installed approximately 1,600 sprinkler heads, consisting of 800 heads to NFPA 13 standards in one residence and 800 heads to NFPA 13R standards in two others. According to Chris Lyons, job foreman, “No way could we have met this schedule without the CPVC Piping System.”



Not only was BlazeMaster the right choice in terms of scheduling, but it also proved its reliability almost immediately. One year after the system was installed, a smoke detector tripped the fire alarm in one of the Wake Forest student residences. When the fire department arrived at the scene, they found the sprinkler had operated as designed and extinguished the fire. No one was injured. Total damage was under \$10,000.

According to David Brown, the manager of Safety and Environmental Affairs at Wake Forest University, “We realized just how dangerously close we came to a tragedy that night. We believe the safety of our students comes before any price and the fire sprinkler retrofits were a small cost compared to the peace of mind of the parents of our students and our school administrators.”

BlazeMaster®

FIRE PROTECTION SYSTEMS

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BlazeMaster® CPVC
Marketing Department
9911 Brecksville Road
Cleveland, Ohio 44141-3201 USA
888.234.2436 ext.7393
216.447.5000
216.447.5750 FAX

