

CASE STUDY

THE NEW AMERICAN HOME 2010 BUILT TO NAHB'S NATIONAL GREEN BUILDING STANDARD

New American Home 2010 Las Vegas, Nevada

Showcase Home in Las Vegas Features Plumbing and Fire Sprinkler Piping Products from FBC™ Building Solutions

The nearly 6800-square-foot, two-story New American Home 2010, built in Las Vegas, is like no other showcase home ever built. Besides the fact that it is designed for multi-generational use with a grandparent suite, what makes the project noteworthy is that it is built to the National Association of Home Builders (NAHB's) National Green Building Standard and the Department of Energy's (DOE) Energy Star® program. As a result, careful attention was paid to the selection of products used in the home to ensure a focus on sustainability.

In the area of piping products, several were chosen from FBC™ Building Solutions, including a BlazeMaster® CPVC stand-alone fire sprinkler system. From an environmental perspective, the decision to use a CPVC fire sprinkler system is a sound one, since CPVC requires less energy to produce than other piping materials and is rated more favorably relative to greenhouse gas emissions during production. A CPVC system also results in lower material and labor costs compared to PEX and metallic systems. BlazeMaster CPVC also offers superior hydraulics as well as flame and smoke properties in comparison with a PEX system. That's because CPVC has a larger internal diameter than PEX. Also CPVC will not support combustion and stops burning as soon as the ignition source is removed.

The choice to go with a stand-alone (vs. a multipurpose) fire sprinkler system was equally obvious. Multipurpose systems are rare in Las Vegas, if they do exist at all. The reason is the condition of the local water. Extremely hard in chemical makeup, the water is often treated with an in-home water softener, which creates a more challenging situation for the multipurpose system design.



Residential Fire Protection, LLC in Henderson (near Las Vegas) was the fire sprinkler contractor on the project. "Our preference is always to use a stand-alone BlazeMaster CPVC system because of its proven quality and the technical support we receive," said Bobby Tavakoli, president of Residential Fire Protection. "Given the choice, I don't know why any contractor would want anything other than BlazeMaster CPVC. Installation time is fast. It's easy to make changes in the field. And, it's significantly less expensive than steel when you consider the material and labor savings. We've been using the BlazeMaster product for more than ten years, and I can't imagine using anything else for applications for which it is approved."

Tavakoli also pointed to the cost advantages of choosing a CPVC system over a PEX option. "Since PEX is copper tube size (CTS), you wind up having to upsize the pipe for hydraulics due to the much smaller internal diameter," said Tavakoli. "Usually that means having to use at least 1-1/4" PEX pipe. The manufacturers are always promoting the flexibility of

PEX, but at that size the pipe loses all of its flexibility.

The entire New American Home 2010 was sprinklered with 1" BlazeMaster pipe—nearly 1,000 feet of it. "The BlazeMaster CPVC pipe and fittings are so much easier to use," added Tavakoli. "They also have a long, successful track record in the field."

Proven performance was also important to the builder--Domanico Custom Homes in Las Vegas. "We were actually approached first by another company to supply the piping products for this home," said Adam Knecht, general manager for Domanico. "But the decision to go with FBC Building Solutions was a simple one. We had been using their BlazeMaster pipe and fittings for many years, since residential sprinklers have been required in Las Vegas for some time. It's all our contractors will install."



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Type of Construction:
Residential – Single Family

Installation Type:
New

FBC
Building Solutions

CORZAN

FLOWGUARD GOLD®

Products from FBC Building Solutions were also chosen for the home's plumbing. The original plan was to use FlowGuard Gold® CPVC pipe and fittings for the entire system (cold and hot water and also a single loop hot water return line). But after the drawings were completed, the contractors realized there was a need for some larger-diameter CPVC pipe for the main inside the home. As a result, Corzan® CPVC pipe was used and transitioned to the smaller-diameter FlowGuard Gold pipe and fittings which ran throughout the home—with a few exceptions. FlowGuard™ Flex PEX pipe was added late in the design phase after the structure had been roughed in and partially plumbed when it was learned that 12 large planters were being donated for the exterior of the home. In order to avoid the need to tear out existing dry wall, FlowGuard Flex pipe was installed. The highly flexible PEX pipe in sizes ½" – ¾" easily snaked through the existing walls to connect to the 12 hose bibs.



A similar challenge arose in the kitchen to plumb an island sink. Previously, conduit had been run as a pipe sleeve under the slab and cabinets had been designed, constructed and installed around the island sink. Since the millwork had been completed prior to the final plumbing installation, a flexible alternative was needed to run through the sleeve and also within the small space available in the cabinet framework. FlowGuard Flex PEX pipe again proved to be an attractive solution for the design.

FlowGuard Flex PEX also added an advantage in the master bath where a specialty multi-spray shower system was installed. The centralized manifold control panel of the shower system left little room behind the walls for plumbing pipe, so the flexibility of FlowGuard Flex PEX pipe proved advantageous.

"We're very comfortable with the FlowGuard line of products," said Knecht. "We've been using them for many years and, as a result, our plumbers are more comfortable guaranteeing their work when using these proven products."

Given the drought conditions in and around the Las Vegas market—and to comply with the NAHB National Green Building Standard—the home also features a number of water conservation products and technologies, including a rainwater retention system, a graywater system, a tankless water heater and an on-demand pump connected to FlowGuard Gold CPVC pipe to power the recirculation system. These systems are common in Las Vegas as they allow homeowners to access hot water after a maximum of four cups of water have run from the tap. The on-demand recirculation system contributed 6 points toward green certification of the New American Home, as rated by the National Green Building Standard, which is the only ANSI approved green building standard.

"We are seeing a lot of demand for green products and designs in this part of the country—more so than at any point in my 30+ years in the business," said Knecht. "I'm concerned about the environmental impact of my projects and am noticing that today's customers are more educated and asking more questions about products that are better for water conservation and the environment. I'm happy that the piping products we chose from FBC Building Solutions are in line with today's green initiatives."

Since Lubrizol Advanced Materials, Inc. (as part of BFGoodrich Performance Materials) developed CPVC plumbing systems over 50 years ago, more than four billion feet of CPVC pipe has been installed in homes, condominiums, buildings, apartments and hotels, including more than 12 million homes. For more information on the FBC piping systems, including pipes, valves, joining cement, caulks, sealants and tools, call 888-234-2436, x447-7393, or visit www.fbcbuildingsolutions.com.

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FlowGuard™ Flex Tubing
BlazeMaster® Fire Sprinkler Systems
BlazeMaster® Multipurpose System

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