

CASE STUDY

CREATOR OF THE PLATINUM LEED-CERTIFIED ECOSMART DEMONSTRATION MODEL HOME CHOOSES FLOWGUARD GOLD® CPVC PIPE AND FITTINGS FOR HIS SHOWCASE PROJECT

EcoSmart
Destin, Florida

Beyond Sustainability, CPVC Chosen for its Reliability, Cost Effectiveness and Ease of Installation

Charlie Rushing was building green, energy-efficient homes long before they became part of a national trend. So few people in the building industry were surprised when he unveiled his plans for the highly publicized EcoSmart model home in Destin, Florida. With a complete roof-to-foundation approach to sustainability, EcoSmart is positioned as the greenest idea/demonstration home in the country with its goal to be LEED platinum certified. Unlike other demonstration homes that are created to eventually be sold, Rushing plans to use his model home as a means to educate professionals and consumers, promote sustainable building practices and products, and serve as a one-stop shopping source with custom packages and products.

With more than 25 years experience in the building industry, Rushing now spends all of his time focused on environmental education and the promotion of green products, technologies, storm mitigation, security/intruder protection and maximum energy efficiency systems for "Healthy House and Work Environments."

Nothing was overlooked in the design of the 5,620-square-foot, multi-generational EcoSmart project, which actually features three separate, yet connected, living units, a four-bay garage complex and a green swimming pool. Cutting-edge technology throughout the home provides a low-maintenance, energy efficient and environmentally responsible living environment. "The EcoSmart project is a beautiful example of maximum sustainability and living in harmony with the environment," said Rushing.

Highlights include a maintenance-free exterior of long-lasting acrylic-ceramic walls; interior walls made of fine limestone plaster that breathe and improve the indoor air quality; a stone-coated metal roof; insulated concrete/steel wall, roof and floor systems;

energy-efficient appliances; and onsite solar and wind generation. Even the landscaping is low maintenance and designed in harmony with the local flora and fauna, using indigenous plants that require minimal water and fertilization.

Sustainability and quality (which translates into longevity) were also key considerations in the design and specification of the home's plumbing products. Rushing wanted to avoid the use of copper plumbing, not only because it represented a less-than-favorable environmental option, but also because he believed it was cost-prohibitive and unreliable as a result of corrosion and joint failures.

Initially, Rushing considered a PEX piping system because of its corrosion resistance and flexibility. But concerns regarding the material's ability to stand up to chlorine degradation and other chemicals caused him to search for a better alternative. In the end, he specified FlowGuard Gold® CPVC pipe and fittings for the entire model home complex.

"In researching the product, I found it represented the best option by far," said Rushing. "In addition, my plumber was a big fan of the FlowGuard Gold CPVC system and had years of experience in using it. I knew that the manufacturer had a great reputation for a very sound product, and since I will eventually live here, I need to be sure only the highest quality products are used."

Rushing's confidence in the FlowGuard Gold CPVC system is shared by the plumbing company he chose for the project--Plumbing Systems, Inc. Although the Destin-based company, founded in 1981, specializes in commercial construction (with the exception of some work with highly customized, large-scale homes), Rushing believed that commercial experience would be valuable, due to the complexity of the plumbing system's design and the need to meet LEED requirements.

"We run almost exclusively FlowGuard Gold pipe and fittings, as well as the larger-diameter Corzan® pipe and



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Type of Construction:
Residential - Single Family

Installation Type:
New

FBC
Building Solutions

FLOWGUARD GOLD®

fittings,” said Kris Martin, vice president of Plumbing Systems. “The company has a great reputation, and its products are readily available. We’ve run PEX pipe on a few projects when the developer insisted upon it, but I personally prefer CPVC. It looks professional, straight and plumb. We’re sticklers for details. We want everything flush and plumb so it looks good for the general contractor and the owner. Plus, if we have to go back to change or fix anything, we don’t have any problems. Since PEX is clustered in the wall, it’s very difficult to identify a specific problem area.”

Plumbing Systems has been using FlowGuard Gold® and Corzan® CPVC pipe and fittings since 2003. Prior to that time, the company was primarily a copper shop. But rising costs, combined with ongoing corrosion issues, caused the company to look for a better alternative.



“When we were using copper, we needed to insulate the lines right after inspection in order to protect them from brutal external corrosion caused by the salinity of our air,” said Martin. “I really like the easy installation afforded by the FlowGuard Gold CPVC system. The one-step process is a real plus, and there are so few tools needed. Having worked on the commercial side of the business, we’re also very familiar with the high pressure capabilities of the FlowGuard Gold and Corzan products. And we’ve learned that they are more energy efficient, which means less heat loss.”

For many projects, Martin’s crew is asked to provide a cost comparison amongst the various piping materials. It’s the bottom-line results offered by the FlowGuard Gold system that make a real impression on the building owners. “I sell the system on its ability to provide cleaner drinking water than copper, in addition to the fact that I’m able to save the customer a lot of money. Plus, the solvent cement joint is more reliable than the crimped joint of a PEX system.”

Beyond product attributes, what was critical for the EcoSmart project was the design of the system. “This was one of our more challenging designs, partly because of the all-concrete, inter-locking system that was used to frame the home. Plus, we had to meet all the LEED requirements,” said Martin. “We needed to install an on-demand recirculation system that provided hot water at the touch of a button to six full bathrooms and two half baths without allowing more than four

cups of water to go down the drain before the hot water was available. We were able to accomplish this through the use of the FlowGuard Gold CPVC pipe and fittings.”

In addition to the recirculation system, the EcoSmart home also has a rainwater collection system and a Charlotte ReUze reclamation system that is made of FlowGuard Gold CPVC. Rainwater is collected from the gutters of the home and used for irrigation. Waste water from the showers and sinks is filtered through a BRAC system and re-used in the toilets to provide the ultimate in water conservation.

Outside the home, another FBC™ Building Solutions product was used to provide plumbing down at the dock. FlowGuard® Bendable composite pipe was installed underground to connect the house to the dock because its unique combination of rigidity and flexibility represented the most cost- and time-effective option.

“This was the first time we had used the FlowGuard Bendable pipe, and I have to say that we really liked it,” said Martin. “It made for an easy installation. Had we not had the bendable CPVC pipe, we would have been forced to use soft copper. I prefer the CPVC option because I don’t have to worry about it being stolen from the job site. Plus, it’s more rigid than soft copper and doesn’t crimp. And, I like the sizes it comes in—up to 250 feet. That’s really great for long runs, because you don’t have to keep using a new spool every 60 or 100 feet. Best of all, we don’t have to sleeve it to protect against corrosion. I definitely see us using the FlowGuard Bendable product again in the future.”

As for Rushing, he’s confident that his industry-leading home features the best plumbing options on the market today. “I asked my plumber what he would install if this was his home. He said FlowGuard Gold CPVC. That, plus what I learned from doing lots of research, made it an easy decision.”

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 FlowGuard Gold® plumbing system, including pipes, valves, joining cement, caulks, sealants and tools, call 888-234-2436, x447-7393, or visit www.fbcbuildingsolutions.com.



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BlazeMaster® Fire Sprinkler Systems
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