CASE STUDY

C&C SERVICE BECOMES ONE OF THE FIRST CONTRACTORS IN THE NORTHEAST TO SPECIFY CPVC PIPE FOR HYDRONIC BOILER SYSTEMS

C&C Service

Hillsdale, NJ

Established: 1989

HVAC Expert Uses FlowGuard Gold® CPVC Pipe to Design Unique Heating & Cooling System for $15 Million Home

More than perhaps any other part of the country, the Northeast and, more specifically, New Jersey, has been an area that has remained loyal to its preference for copper plumbing systems. The reason, in part, is due to the region's heavy reliance on the use of boiler systems for heating and the misperception that metal pipe can withstand hotter water temperatures without problems. But that custom is gradually changing as plumbers and HVAC contractors alike are becoming more educated about the adaptability and reliability of FlowGuard Gold® CPVC pipe and fittings.

A prime example is Ted Carey, president and co-founder of C&C Service in Hillsdale, New Jersey. It was in 2003 that Carey, a 27-year HVAC veteran, was first attracted to the FlowGuard Gold® CPVC product primarily due to its ease of installation.

"What I discovered was that FlowGuard Gold® pipe and fittings gave me the opportunity to enter the hydronic end of the heating industry," said Carey. "The one-step solvent cement joining system was fast and easy to use, which made it much more practical than copper. I confirmed its temperature tolerance of 180 degrees and found that it was also rated for the right psi (100 psi) to make it a safe, reliable alternative. I was also given the go-ahead by the two boiler manufacturers I represent, their concern being the oxygen barrier required of plastic piping systems but not needed with the FlowGuard Gold® pipe. Plus, since it was approved for potable water, that told me right there it was a quality product."

What Carey soon learned was that a FlowGuard Gold® CPVC piping system offered many other benefits that he felt would be attractive to his high-end customers, such as noise reduction and, more importantly, energy efficiency.

"When you pay millions of dollars for a home, you don't want to put up with banging metal pipes," Carey explained. "FlowGuard Gold® pipes are significantly quieter."

An NSF International test confirms that FlowGuard® CPVC pipe is, in fact, four times quieter than copper with regard to water flow noise, and it has been proven to virtually eliminate water hammer.

"I also really liked that a FlowGuard Gold® system has inherently better thermal capabilities," said Carey. "Loss of heat is a major problem with copper. You can feel the heat radiating from the pipe. I want to deliver water at 140 degrees. With the FlowGuard Gold® pipe, I can rest my cheek against the pipe, because the heat stays in the water inside the pipe where it belongs. If you grab copper pipe, you might actually burn yourself. I make this point not so much from a safety perspective but from an efficiency standpoint. Using a FlowGuard Gold® system, I can deliver heat at the point needed, whereas copper can create some uneven heating and comfort issues. Some rooms may actually become overly warm if there are lots of pipes beneath the floor in that area."

Appealing to perfectionist standards

Carey feels he has to be more conscious of such benefits because of the clientele he serves. In the more than 15 years since he founded the company, he has gradually evolved into the high-end of the industry. The first four major residential projects he completed using FlowGuard Gold® pipe and fittings range in price from $1 million to nearly $15 million. Many of his homeowners are professionals or entrepreneurs working in a 50-mile radius around New York City.

"I worked with Verona Plumbing Supply locally and first tried the FlowGuard Gold® CPVC product on some smaller test jobs; I was very impressed. I now make the benefits of FlowGuard Gold® pipe and fittings a major part of my sales pitch. If someone asks how I can give them a more efficient heating system, I tell them to go with a FlowGuard Gold® CPVC system. I like that FlowGuard Gold® pipe is available from 1/2" to 2" so I can design an entire boiler manifold out of it. The more flexible plastic pipe designed for radiant applications is only available in 1/2" to 1"."

Carey also appreciates the rigidity of the CPVC pipe over flexible PEX pipe for aesthetic reasons. "I take a lot of pride in my work," said Carey. "The system has to perform, but just as important, it has to look good, neat and professional when installed."

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Type of Construction:
Residential – Single Family

Installation Type:
New

FLOWGUARD GOLD® PIPE & FITTINGS
NOT A DROP OF DOUBT.

In addition to its aesthetic appeal, Carey focuses on the system's reliability. "Corrosion is also an issue to address with builders and homeowners," noted Carey. "In some cases, it's a major part of the final decision. I see a lot of corrosion with copper pipe due to the corrosive nature of the water in this region. When corrosion occurs, the system can't perform as long or as reliably."

An upscale heating & cooling system for a very extraordinary home

Carey's high-end design and installation skills were recently put to an unprecedented test when he was asked to create a superior heating and cooling system for a home in Alpine, New Jersey. The home (a term that is used loosely to describe this mansion) is more than 17,000 square feet, which includes ten bathrooms. A "smart home" by all accounts, its air conditioning, entertainment and lighting are all handled by a computer. The home which is located in the center of three combined lots, is expected to be worth $12 – $15 million when completed. And Carey estimates the heating and AC system alone to approximate $300,000.

"The homeowners asked the builder about the possibility of a more efficient heating and cooling system for the home," explained Carey. C&C's response was a combination hot water/chilled water system utilizing FlowGuard Gold® CPVC pipe. As part of the cooling system, chilled water runs through a coil in ductwork. A blower then blows air past the coil during the hotter months, as needed.

"This is a very unusual solution," Carey said. "The normal house doesn't have chilled water. This is a unique design that is usually reserved only for apartments and larger facilities because it is cost prohibitive at sizes under 30 tons. You need a minimum of 15,000 square feet for this to make sense."

Carey estimated that the chilled water system design is roughly three times as expensive as a more traditional, stand-alone outdoor AC system. So why pay more? Carey explains that one reason is the tremendous payback on utility bills due to the system's ultra-high efficiency and the fact that utility companies send rebates to reward energy-conscious consumers. Yet, as Carey points out, the system does not offer a full return on investment from a dollar and cents perspective alone.

"The real incentive is comfort," noted Carey. "The chilled water system allows the homeowner to fine tune controls more so that cool air is directed to those areas of the home where it is needed most. As the sun moves around the house, you can adjust the AC accordingly by room. In this way, you're not calling for AC all at once, but only in those rooms directly affected by the sun at that point in time."

As a side benefit, Carey further points to the improved aesthetic value of the indoor chilled water system which eliminates the need for bulky, unattractive cooling equipment next to the home's exterior. The system profiled here is so sophisticated that C&C is one of the only contractors in the area who installs it.

"I could have made this system work by using any number of pipe materials," said Carey. "But the FlowGuard Gold® CPVC system was, overall, the best solution with regard to concerns of corrosion, noise and heat loss. And, condensation, which is more of an issue with the chilled water system, is virtually eliminated thanks to the superior thermoplastic abilities of CPVC."

Carey concluded, "I know that I'm using the FlowGuard Gold® pipe differently than it was originally intended. But whether it's for more traditional installations or this very high-end combination system, I'm confident it's the best choice. My preference is to use FlowGuard Gold® CPVC pipe and fittings exclusively."

Since Lubrizol's development of CPVC plumbing systems over 45 years ago, more than three (3) billion feet of CPVC pipe has been installed in homes, condominiums, buildings, apartments and hotels, including twelve (12) million homes. For more information on the FlowGuard Gold® plumbing system, including pipes, valves, joining cement, caulks, sealants and tools, call 1-888-234-2436, X7393, or visit www.flowguardgold.com

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