

CASE STUDY

TOUGH ENVIRONMENTAL CONDITIONS FORCE PLUMBING CONTRACTOR TO REVIEW ALTERNATIVES TO COPPER

P. F. Plumbing Contractors, Inc.
Winston Salem, NC
Established: 1984

Since the first settlers arrived in Winston Salem, NC, the land was used for tobacco plants, which were strong enough to thrive in the rough environment. Similarly, these soil and water conditions have led to break downs in copper plumbing systems used in residential, commercial and municipal properties, causing costly retrofits.

For years, many plumbing contractors and builders have been reviewing alternatives to copper. This was the dilemma faced by P.F. Plumbing Contractors, Inc. The company, founded in 1984, had established two offices with 70 plumbers, 15 support employees, and multiple projects in office buildings, hotels, schools, \$90,000 to \$1 million homes, municipal buildings, and multi-family apartments and condominiums.



Tom Davis, vice president of residential and commercial plumbing for P.F. Plumbing, explained, "We're a privately-owned business that takes pride in installing the highest quality plumbing systems available. We always used copper in the past, but the high cost and inconvenience caused by copper pipe corrosion forced us to look for an alternative."

Reviewing Alternative Choices

P.F. Plumbing decided to review PEX (cross-linked polyethylene) plumbing systems as a viable alternative to copper. According to Davis, they discovered that the crimping of the PEX couplers that connect the pipe with the fittings didn't allow water to flow properly. Plus, the crimping tools were expensive, which would result in a major expense each time the tools were lost. Overall,

PEX systems proved to be nearly as expensive and less dependable than copper.

When P.F. Plumbing was introduced to FlowGuard Gold® CPVC plumbing systems in 1998, they were interested, but skeptical. The FlowGuard Gold® CPVC sales representative for Lubrizol introduced P.F. Plumbing to the many advantages of FlowGuard Gold® CPVC plumbing systems over alternative systems. He demonstrated the strength and durability of FlowGuard Gold® CPVC.

"We were convinced by the long-term performance record of FlowGuard Gold® CPVC," said Davis. "Plus, the FlowGuard Gold® representative showed us how easy it is to train plumbers to install FlowGuard Gold® CPVC."

Most importantly, for the Winston Salem market, was that CPVC plumbing systems will not rust, corrode, pit or scale under any water conditions including the most aggressive well water and city water with high levels of chlorine. "As a general rule," said Davis, "we won't install copper with any well water systems."

Taking on Corrosion Challenges

According to ANSI/NSF Standard 61, in environments with aggressive water, where pH levels are less than 6.5, copper plumbing will not meet the water quality standard. Plus, copper cannot resist certain soil chemistries or compositions and will begin to degrade in underslab applications. In these severe conditions, copper pipes can develop pinholes and leaks, resulting in considerable maintenance costs as well as leaching of copper into the water, causing it not to meet applicable potable water quality standard.

FlowGuard Gold® CPVC plumbing systems exceed ANSI/NSF Standard 61 for water quality with no pH level restrictions. Unlike copper tubing, CPVC systems maintain their properties in high acidic levels. In fact, CPVC is the only plumbing system that does not contain any metal in the entire system. With homeowners demanding reliable and safe plumbing systems, CPVC pipes maintain the pristine level of water quality coming into the home.



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Type of Construction:
Residential -
Single Family

Installation Type:
New

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

FLOWGUARD GOLD®

CPVC plumbing systems also meet all model code approvals, including the International Plumbing Code, International Residential Code, BOCA National Plumbing Code, Standard Plumbing Code, Uniform Plumbing Code, CABO 1- and 2- Family Dwelling Code and Canadian Plumbing Code. PEX is not approved by the Uniform Plumbing Code.

Predictable Plumbing Installations

Following a two-day training session by the FlowGuard Gold® representative, P.F. Plumbing successfully installed FlowGuard Gold® CPVC plumbing systems in the field. "They helped us check our installations at first to ensure we were making them properly," said Davis. "There is no guesswork with FlowGuard Gold® CPVC, and we don't have to worry about soldering joints."

CPVC plumbing systems are faster and easier to install for the professional plumber, reducing overall labor costs. CPVC plumbing systems require simple hand tools for installation, and no torches or crimping tools are needed. A one-step joining system can be pressure tested in as little as 10 minutes. Parnell-Martin of Winston Salem supplied the FlowGuard Gold® pipe and fittings to P.F. Plumbing.

Given the ease of installation and the ability to make job changes on site, CPVC plumbing system installations are more predictable. Davis found that his plumbers could meet deadlines faster than ever before. And, unlike other plastic systems, CPVC is readily available in sizes up to 2" in diameter.

"We were able to maximize the productivity of our work force and reduce our labor costs per job by 25 percent over copper plumbing installations," said Davis.

Passing Benefits onto the Homeowner

CPVC plumbing systems also offer better insulation and energy savings than copper. Unlike copper piping materials, homeowners have found that the thermoplastic properties of CPVC plumbing systems provide insulation to reduce condensation and keep hot water hotter and cold water colder than copper, resulting in less energy loss through the wall of the pipe. This can save homeowners money on heating and cooling bills and virtually eliminate "sweaty pipes." The thermoplastic properties of CPVC systems also provide a quieter system with less resonance than metal plumbing systems, reducing the potential of the pounding noise of water hammer.

Contractor Conversion

Since he began installing CPVC plumbing systems, Davis has become so convinced in the superiority of FlowGuard Gold® CPVC that he has written letters to the builders he works with urging them to give the product a try. "We convert a few every year," said Davis. "Now, we're installing FlowGuard Gold® CPVC in 75% of the units we install each year."

FlowGuard Gold® CPVC has provided all the benefits he desired – lower costs; faster, easier installations; reliable, long-lasting performance; and water purity. Davis believes that his customers have been completely satisfied with the results.

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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