

# CASE STUDY

## SOUTHWESTERN BUILDER SWITCHES PLUMBING SYSTEMS TO COMBAT COPPER CORROSION

### **Fox & Jacobs Homes with AMPAM Keith Riggs Plumbing**

**Phoenix, AZ**

*Established: 1947*

Arizona natives know that harsh soil conditions are just part of the bargain of the hot and dry climate. But they may not realize the effects of the environment on their plumbing system. Incidences of corrosion in copper plumbing systems, especially under the slab, are not uncommon in these rough soil conditions.

Fox & Jacobs Homes, Phoenix, AZ, builds affordable homes for first-time buyers and seniors that provide the most square footage for the price. Fox & Jacobs builds modern, southwestern-style homes, using stucco and tile. They feature big second bedrooms with walk-in closets and large living rooms, which provide more room for the growing family.



Fox & Jacobs Homes operates in Texas, California, Indiana, North Carolina, South Carolina and Georgia.

By building outside of the metropolitan area, Fox & Jacobs is able to keep costs down and build very affordable homes. They build six to eight communities at a time, with homes ranging from 1,000 to 3,400 square feet and averaging \$155,000. Their golf course community has homes priced around \$78,000.

### **CPVC Solution**

According to Virgil Polk, vice president of Fox & Jacobs, the decision to try an alternative plumbing system came as a result of input from other builders. The Texas branch of Fox & Jacobs had been using FlowGuard Gold® plumbing systems since the mid-1990s with no failures. Another Phoenix builder, Centex Homes, had also specified FlowGuard Gold® CPVC for their homes due to copper corrosion in the slab.

"We had experienced rotting of copper plumbing pipe in the slab, and knew that the leaks could create major problems for our homeowners," said Polk. "We recognized the excellent track record of FlowGuard Gold® plumbing systems for other builders and decided to try the product in Fox & Jacobs Homes."

Polk realized many benefits to using CPVC, including improved water quality, reliability, reduced noise and faster installations. He consulted AMPAM Keith Riggs Plumbing, Mesa, AZ, and Kreger Plumbing Co., Phoenix, AZ, about installing FlowGuard Gold® CPVC. Both plumbing contractors have recognized a savings in labor costs and a consistent cost in CPVC compared to copper pipe.

"We are consistently looking for value-oriented products throughout the home," said Polk.

"FlowGuard Gold® plumbing systems are one of the reasons we can hold our prices down."

CPVC plumbing systems exceed ANSI/NSF Standard 61 for drinking 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 insert fittings 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<sup>®</sup>

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.

## Faster, Easier Plumbing Installations

CPVC plumbing systems do not require torches or crimping tools like copper and PEX (crosslinked polyethylene) systems. A one-step joining system can be pressure tested in as little as 10 minutes. The FlowGuard Gold<sup>®</sup> CPVC plumbing system includes pipe, fittings and valves.

According to Gerry Riggs, president of Riggs Plumbing, Inc., "Installing CPVC plumbing systems does not involve any trial and error. We just applied the techniques for installing copper, only without the torches and heavy equipment. This has resulted in a material and labor cost savings over copper. We are able to pass those savings to the builder and homeowner."

## Benefits for Homeowners

CPVC plumbing systems also offer better insulation and energy savings than copper for homeowners. Unlike copper piping materials, 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.

Since the pipes won't "sweat", plumbing pipe can be installed in ceilings instead of under slabs, which is not possible with copper. Overhead installations allow the plumbing system to be easily installed and maintained.

The thermoplastic properties of CPVC systems also provide a system that is four times quieter than copper, reducing the sound of running water and the potential of the pounding noise of water hammer.

"We have never been questioned by homebuyers about our choice for their plumbing system," said Polk. "And, we feel reassured by the reliability of FlowGuard Gold<sup>®</sup> CPVC plumbing systems and the commitment by Lubrizol to lasting performance."

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<sup>®</sup> plumbing system, including pipes, valves, joining cement, caulks, sealants and tools, call 1-888-234-2436, X7393, or visit [www.flowguardgold.com](http://www.flowguardgold.com).

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**FlowGuard Gold<sup>®</sup> CPVC  
Marketing Department**

9911 Brecksville Road  
Cleveland, Ohio 44141-3201 USA  
888.234.2436 ext.7393  
216.447.5000  
216.447.5750 FAX