Home Run Plumbing: *A Fast Hit with Builders and Homeowners*

Builder's Experience

EASE OF INSTALLATION
DIFFICULT — EASY

SPEED OF CONSTRUCTION
SLOWER — FASTER

COST EFFECTIVENESS
POOR — EXCELLENT

RETURN ON INVESTMENT
IMMEDIATE — DEFERRED

COMPETITIVE EDGE
NONE — SIGNIFICANT

HOMEOWNER INTEREST
LOW — HIGH

Challenges: Getting the plumber to pass some of the cost savings on to the builder and the client

Would they do it again? Yes

PATH Attributes:

- Affordability
- Energy Efficiency
- Quality/Durability
- Environmental Performance

Builder Tips: "In an increasingly competitive business, using innovative materials and products to differentiate yourself is a must. By partnering with a brand-name PEX manufacturer, it gives you one more opportunity to achieve that goal."

– Michael Strong

Builder:

Michael and Tommy Strong
Brothers Strong Residential Design and Build
Houston, Texas

Builder Type:

Remodeler/Small Builder

The Technology:

Home Run Plumbing with Cross-linked Polyethylene (PEX) Piping and a Plumbing Manifold

The Project:

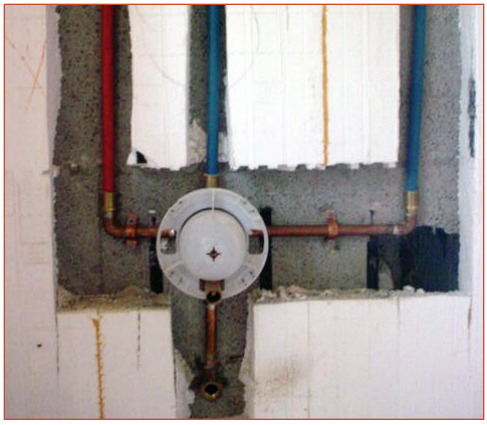
The owner of a Cypress, Texas home hired Brothers Strong to expand his one-car garage to a three-car garage with a living space, including two full bathrooms, on the second floor. The 1,200-square-foot addition cost more than $100,000.

"While the entire project took six months of construction time, they piped it in a day."

– Tommy Strong on the benefits of home run plumbing

BROTHERS STRONG'S STORY

"We began using home run plumbing in 2004," says Tommy Strong, project manager. "We were looking for the design flexibility it gives you in a remodeling project. Often you are in a situation where you strip the walls, and you are limited in where you can put the things you want. The existing structure can be very restricting, and copper takes up a lot of space and is difficult to work with in small spaces. There can be a real fire hazard working with copper on site too."



PEX piping, which ranges in size from 1/4 to 2 inches, is lightweight and flexible, allowing Brothers Strong to easily work the hot and cold supply lines through insulation to reach a shower valve like this one.

"Above all, flexible piping is ideal in retrofits or additions where you are working with the existing piping," Tommy says. "It greatly reduces the time needed for piping."

"Installation is way easy; speed of construction is way fast," says Michael Strong, vice president. "While the entire project took six months of construction time, they piped it in a day."

Tommy Strong

Michael Strong

Brothers Strong started in 1984 when Michael and Tommy Strong (CGR, CAPS) worked for homebuilders and remodelers during college. Incorporated in 1990, Brothers Strong has evolved from a painting contractor to a full-scale home remodeling company, with a projected $2.2 million in business in 2006. The Strong brothers are beginning their first new home, which will be certified under the new LEED for Homes pilot program. They anticipate $1.75 million in new construction sales this year.

Why they use home run plumbing:

Since 2004, Brothers Strong has used PEX plumbing and a central plumbing manifold to cut the time plumbing contractors need to install piping. Home run plumbing makes plumbing system upgrades and maintenance much easier.

With two bathrooms in the addition, Tommy Strong says it would have been difficult to use conventional plumbing. PEX piping preserved the integrity of the original design.

"With the two bathrooms, it would've been much more challenging using conventional piping," says Tommy. "There were several tight spots, as we were trying to get from old areas to new areas. We probably would've had to make some design compromises if we used a conventional system, like building out some fir down chases or lowering the cathedral ceilings."

"On the sales side of things, I would say the primary reason for using home-run plumbing is the opportunity to differentiate ourselves from the competition. It is in accordance with our evolution toward cost-effective construction and green building," says Michael Strong, vice president.

"PEX piping and a manifold just make so much sense for so many reasons," Michael adds. "It gives us another arrow in our quiver when we talk about high-performance remodeling or new construction."

COST: FIVE PERCENT LESS

"In most of our jobs, we automatically include home run plumbing in the cost, and it's listed in the appendices of our proposals, but we don't usually pitch it to clients as an option," Michael says.

HOW IT WORKS

Manifold plumbing systems are control centers for hot and cold water that feed flexible cross-linked polyethylene (PEX) supply lines to individual fixtures.

PEX tubing is lightweight and flexible, bending around corners and obstructions. PEX tubing ranges in size from ¼ to 2 inches.

Together with the plastic piping, manifolds offer installation-related cost advantages over conventional rigid pipe plumbing systems.

Manifolds use separate chambers for hot and cold water. The cold water manifold is fed from the main water supply line and the hot water manifold is fed from the water heater. A water line dedicated to each fixture emanates from a port in the manifold, where each fixture can be turned off individually. In larger homes or apartment buildings, mini-manifolds can service remote fixture groups.

Manifold systems can accept all common supply line sizes, down to 3/8-inch. Typically, a parallel supply line layout or a hybrid version of this will be used with a manifold, so fewer fittings are required and there is less pressure drop in the lines.

PEX piping doesn't corrode or develop pinhole leaks, is chlorine and scale-resistant, and can use fewer fittings than rigid plastic or metallic pipe.

Read the Tech Spec.

TECHNOLOGY HIGHLIGHTS

This project included the following PATH-profiled technologies:

- Fiber cement siding
- Home run plumbing
- Radiant barriers
- Windows with high-performance glazing

"That being said, if we have a particularly large job and a tight budget, we don't always specify home run plumbing. In those cases—like in the Cyprus addition—we had not determined what type of plumbing system we were going to use. We were going to go with what we could budget."

"Since it wasn't included in the original design, and we had a fixed plumbing budget internally, we told the plumber we were going to pay this amount for the plumbing, but that's it. So we told the plumber to be creative. Then the plumber said, 'Hey, we are doing PEX on your smaller remodels, let me do it on this project and I'll meet your price objective.' It cost about 5 percent less than what was in the original budget."

"That is unusual. One problem we are struggling with is that our plumbers are not giving us the price break for the plumbing installation, when we know the labor is a fraction of normal costs. However, there are still not enough plumbers out there doing it, so there's not enough pressure on pricing to make it more cost effective. That's a shame because it's a great system with a huge number of benefits."

"In this case, our plumber showed a willingness to partner with us, probably because over several projects, we've had a good relationship," Tommy says.

EASY MAINTENANCE, HAPPY CUSTOMERS

"The big impact that clients are going to see over the long term is the flexibility in maintenance and repair," Michael says. "You can shut off any individual water source conveniently. This is a huge advantage. It's easier for the homeowner, and it's easier for the remodeler. So if we go back to a house and remodel the bathroom in five years, we just shut off the water to that bathroom. We are not looking for the main in the street, and we are not shutting off the water to the rest of the house. If the homeowners want us switch out the water heater, all we do is shut off that water supply. That means way less hassle for us, and less cost for the client."

"We try to build value into our projects that way. We are planting these little seeds of satisfaction that will blossom in the years ahead."

With PEX piping, small-diameter tubing can be used in parallel installations–like this one for a sink–to limit water consumption while waiting for delivery of the heated water. There is also less heat loss from PEX pipe than from metal pipe.

The Partnership for Advancing Technology in Housing (PATH) brings together builders, manufacturers, researchers, government agencies, and other members of the housing industry. PATH partners work to improve the quality and affordability of new and existing homes. The program is administered by the U.S. Department of Housing and Urban Development's Office of Policy Development and Research.

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