



# GREEN PIPING ALTERNATIVE DELIVERS ELEMENTARY SAVINGS AND SUCCESS

## PROJECT:

Woodruff Elementary School,  
Potable Water

## PRODUCTS:

**aquatherm green pipe®**

## LOCATION/DATE:

Logan, UT  
Spring 2008

## AQUATHERM ADVANTAGES:

- On materials alone, PP-R was \$8,000 less than copper
- School officials rested easier with a 10-year warranty
- No need for insulation thanks to PP-R's natural R-value

Situated in northern Utah, the city of Logan is home to almost 50,000 residents and Utah State University. With the city's under-18 population growing, the Logan City School District found itself needing more elementary school capacity and ventured to expand Woodruff Elementary School in winter 2008.

The 50,000 square-foot building was originally built in 1984, and the expansion would grow the building by another 25,000 square feet. The expansion project was pretty straightforward and involved nothing overly challenging.

One relatively unique aspect of the project, however, was introduced by the plumbing contractor on the job, Carson Mechanical. Copper prices were at an all-time high, and the company's owner, Randy Godfrey, identified Woodruff as an ideal project on which to deploy Aquatherm, a copper alternative, for potable water.

## PUSHING FOR IT

"It got specced on the job because I pushed for it," Godfrey said of Aquatherm, Inc.'s polypropylene-random (PP-R) piping systems. "I had used it on a residential home near Layton (Utah) in May and that job went smoothly. My installers liked it and everything had gone smoothly once they got past the learning curve," he added.

Godfrey, who has been in the industry for more than 13 years and owned Carson Mechanical for six years, is always on the lookout for products that will give him an edge on the competition. He presented

Aquatherm to the school project's general contractor, engineer, and the school district as an effective and cost-saving alternative. While there were some typical questions and some initial skepticism, in pretty short order everyone was on board.

While the Aquatherm system forms joints that are extremely durable, it took the Carson installers about a week to get

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**- Randy Godfrey, Owner of Carson Mechanical Pennsylvania**

extremely comfortable with the fusion welding process. There's also a bit more pre-planning necessary than working with copper. However, once up to speed, the Carson crew was able to achieve some efficiency.

The heat fusion welding process is so essential to the PP-R piping system. Aquatherm systems, which have been proven in 70 countries for nearly four decades, form joints via a quick and simple fusion process in which the pipe and desired fitting are simply inserted onto an Aquatherm welding device and heated for a specified time (typically only seconds), then joined together.



Once fused, pipes and fittings have the same physical properties, eliminating systematic weaknesses. Additionally, a fiber-composite fiberglass layer in the pipe reduces linear expansion of the pipe by 75% compared to other plastics, and ensures that it hangs rigidly.

Manufactured in Germany, the product is becoming increasingly popular throughout North America. One of the keys to Aquatherm being specified on the job was the fact that when installed by Aquatherm-trained installers, the product comes with a comprehensive 10-year warranty that covers not only the pipe and fittings but also personal injury and property damage.

## THE NECESSARY TOOLS

Carson plumbing bought the heat fusion welding tools necessary for 2-inch down to ½-inch Aquatherm pipe. The piping was run from taps in the existing supply lines to the new fixtures. In all, about 80 fixtures were installed in the new wing, mainly Kohler® toilets and faucets, Sloan® flush valves, and an American

Water Heaters Polaris® high efficiency water heater.

The project involved the installation of roughly 3,000 linear feet of NSF-certified Aquatherm Greenpipe®, which is designed specifically for domestic potable water. Godfrey had three or four Aquatherm-certified installers on the job, working on the PP-R piping for about half of the total six months needed to complete the plumbing aspect of it.

The installation proceeded smoothly, and Godfrey reported only two leaks among the couple thousand connections on the entire system – and he attributed those to operator error. “We would have probably had at least a couple more leaks with copper,” Godfrey added.

The job was completed in time for the 2008 school year, and everyone was pleased with the final outcome. “The advantage we gained over our competitors in doing Aquatherm was key, and it saved time and money,” Godfrey said.

He estimated that using Aquatherm instead of copper saved the school district around \$8,000. On top of that since the PP-R has a

natural insulation value of R-1, no insulation was necessary, providing additional time and material savings. Godfrey has gone on to use Aquatherm on other projects with great success.

## OVERCOMING OBJECTIONS

Chris Derr, the Logan School District plumber, was the school district’s mechanical representative on the job (he retired in summer 2009). He explained that he initially was skeptical of using plastic piping. “When I first saw Aquatherm I had reservations. It’s taken me many years to get over the skepticism of plastic pipe, and it’s only happened for me over the last few years.”

“But I got more comfortable as I went through the training class and studied up on it. It’s kind of the way things are going, and now that I’m running my own plumbing business, I can see a lot of applications where I could integrate it into my business,” Derr said.

He added that the Aquatherm piping installation went very smoothly. “We haven’t had any problems at all with the pipe. Everything was fine with it and we’ve had no maintenance issues with it whatsoever.” Don Bell, who assumed Derr’s position confirmed that to date the pipe has held up perfectly – which is no surprise since the product has been proven around the world for nearly 40 years. ☺

*A version of this article appeared in the June 2010 issue of HPAC magazine. To view the article, visit <http://hvac.com/departments/design-solutions/expanded-school-potable-water-0610>*



The German-manufactured pipe has been one of the world’s most durable and greenest piping systems for four decades and proven successful in 70-plus countries. Aquatherm piping systems offer many performance and environmental benefits, such as:

- Eliminating toxic materials, glues and resins, and open flames from the piping installation equation
- An R-value of 1 or more per inch or greater depending on pipe size and SDR
- The fusion welding process, which creates seamless connections that last a lifetime without leaking or failing
- An optional fiber-composite layer in the pipe reduces linear expansion of the pipe by up to 75% compared to plastic piping



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