



aquatherm

Provide lasting pipe performance

POND GOES GREEN – AND SAVES IT TOO

PROJECT INFORMATION

PROJECT	PRODUCTS USED	LOCATION/ DATE
Carl Pond Plumbing Headquarters, HVAC and domestic water	Climatherm®	North Salt Lake City, UT 2007

AQUATHERM ADVANTAGES

- The experienced plumbers saved considerable time installing PP-R versus copper
- PP-R's natural R-value reduced the amount of insulation necessary
- Pre-fabricated connections and manifolds further reduced labor time



THE CHALLENGE

The owner sought cutting-edge environmentally friendly technology for his headquarters/showcase.

THE SOLUTION

Roughly 1,000 feet of 1 ½-inch to 2-inch Climatherm was installed for HVAC and over 400 feet of ½" to 1" Greenpipe was also installed. The installation has served as an excellent showcase to potential customers.

Carl Pond was in the middle of a rather ordinary plumbing retrofit on a residential home in the Salt Lake City area, when one of the homeowners, Maxine Eldredge, suggested that he investigate an extraordinary piping product made in Germany. Pond – always looking for innovative, environmentally friendly, and cost saving technologies – did look into Aquatherm, Inc.'s polypropylene-random (PP-R) piping alternative. He discovered a product with enormous potential in the North American market.

“...THE PROJECT WOULD HAVE TAKEN ABOUT FOUR WEEKS TO RUN USING COPPER AND WITH COPPER PRICES AT AN ALL-TIME HIGH, AQUATHERM WAS CONSIDERABLY LESS EXPENSIVE.”

- CARL POND

At the time Pond didn't know that within a couple years he would be representing Aquatherm, Inc. as its Utah/ Nevada representative and full line distributor. Maxine's husband, Ed Eldredge, is vice-president of sales and marketing for Aquatherm, Inc., which holds the North American distribution rights to this piping product that's been used in millions of heating, cooling, and industrial installations in 70-plus countries for the last 35 years.

A TRIAL RUN

In spring 2007 after extensive research on Aquatherm, Pond decided to try the product on a small commercial repair job. First, his crew received a four-hour Aquatherm training course in which they learned that simply putting a piece of pipe and a fitting on opposite ends of an Aquatherm welding device for the specified amount of time (about 24 seconds for the two-inch pipe), and then joining them together, creates an incredibly strong connection. There are no flames, chemicals, or mechanical connections, and once fused, the pipes and fittings have the same physical properties, thus eliminating systematic weaknesses.

"My plumbers were thrilled with Aquatherm, but with the apprentices there was a bigger learning curve. But once the guys understand the application and the implementation of the product they really like working with it," Pond said.

Mike King, Pond's journeyman plumber and plumbing supervisor, explained that getting the hang of heat fusion welding took a day or so, but that once he and his crew got up and running they quickly mastered it. "It took a while, because it sets so quickly, and it involves a bit more planning than copper, but you can really save time on the straight ahead runs." King also added that prefabricating allows for substantial labor savings – roughly halving the installation time of copper in many cases.

The trial job went smoothly and provided a good profit margin, and Pond decided Aquatherm was ideal for the new 11,000-square-foot building he was converting into an office/shop/warehouse for his growing plumbing business.

A GREEN SHOWCASE

The building, located in North Salt Lake, had traditional copper piping and gas heaters with old furnaces, and was anything but energy efficient. Pond though, sought a showcase for energy efficiency and his company's skills.



Carl Pond Plumbing Headquarters

"Our building was done with LEED certification and green building as a focus. We wanted to show that we know green," Pond said. "We built the building to be able to market the green aspect."

Solar heating was atop Pond's lists and was an easy decision since he also serves as vice president of Eco-Energy Systems, which has worked with ÖkoTech, an Austrian innovator in solar technology for 30 years. Pond set out to harness solar heat for all the building's heating needs using an in-floor radiant system and hot water fancoils for the main office, employee center, exercise room, and warehouse.

He also adopted a heating and domestic hot water arrangement that has been used extensively in Europe but is relatively new to North America. The solar panels provide almost 90% of the heating needs and a 96% efficiency Triangle Solo Prestige 250 condensing boiler provides the remaining 10% and back-up heating.

Pond employed Uponor Quik Trak®, a system of plywood panels attached to an aluminum transfer sheet with a groove



The mechanical space at Carl Pond's contracting business was left open intentionally in a corner of the warehouse to show off the company's green technology offerings and skills. Aquatherm Climatherm was used to connect the various valves, pumps, TEC controllers, and the condensing boiler, in addition to the other components.

down the center of the panel holding 5/16" Wirsbo hePEX™ plus tubing. To facilitate tubing turns, the Quik Trak system includes return panels with U-shaped grooves, which ensures total Quik Trak coverage and ensures the proper turning radius.

Custom-made ASTM-compliant Fabian 250-gallon solar storage tanks were integrated, and the mechanical system also uses Grundfos pumps and Taco valves. However, Pond said the "brains" of the system are the Belimo three-way valves and TEC solar control applications, which continually monitor the system's heating and hot water needs and adjust the system to run at optimal efficiency.

As for the HVAC system piping, Pond employed a reverse return application, which used more piping, but is much more efficient. The first heat source and the last heat source are piped backwards so the flows are balanced and even heat distribution is achieved at each heat source. The system runs hot water to the heating coils and chilled water from a chiller to the cooling coils, with it all circulated through the Aquatherm Climatherm piping system.

Climatherm, which is designed specifically for HVAC applications, was a perfect fit for this eco-friendly project. Climatherm differs from the company's potable water pipe,

CARL POND PLUMBING INSTALLED
AQUATHERM'S POLYPROPYLENE-
RANDOM PIPING AND A HOST
OF OTHER ECO-FRIENDLY
INITIATIVES IN ITS 11,000-SQ-FT
HEADQUARTERS, AND THE COMPANY
HASN'T LOOKED BACK SINCE.

Aquatherm Greenpipe®, in that it includes fiber-composite, a fiberglass impregnated layer that provides exceptional strength and thermal expansion resistance.

Also boosting the energy efficiency is the High-Velocity Systems smaller air duct piping system, which ventilates the



entire building using half the cubic feet per minute that a traditional cooling system would consume. Additionally, Pond used sealed, pressurized ducts with drops going to the outlets throughout the building and common fan venting for all the bathrooms.

20% SAVINGS


Pond, who has been in the business since 1979, designed the whole building and his company performed the entire remodel, including all building framing and piping.

He bought the necessary Aquatherm fusion welding irons,

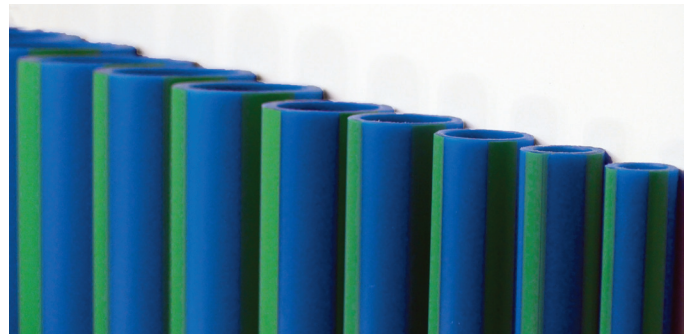
“because we were committed once I saw the product and learned about it,” and started the pipe installation process.

Piping the entire system took about three weeks. Roughly 1,000 feet of Climatherm in sizes from 1 ½” to 2” was installed for HVAC applications and over 400 feet of Aquatherm Greenpipe potable water pipe with the faser-composite layer from sizes ½” to 1” was also installed.

Pond said that the project would have taken about four weeks to run using copper and that with copper prices at an all-time high, Aquatherm was considerably less expensive. He estimated that Aquatherm saved roughly 20% over copper on the overall installation – a generally conservative comparison that holds up today despite fluctuating copper prices.

These days the Carl Pond Plumbing office is certainly meeting the owner’s expectations in terms of being a green showcase. Each month individuals and/or groups tour the facility and study its innovative and energy-saving technologies. Additionally, Pond has installed Aquatherm throughout a huge range of applications, including one of Salt Lake City’s most environmentally friendly residences. 

Case study originally published in the November 2, 2009 issue of ACHR News magazine. Reprinted with permission.



The German-manufactured pipe has been one of the world’s most durable and greenest piping systems for nearly 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
- A natural R-value that reduces energy loss
- The fusion welding process, which creates seamless connections that last a lifetime without leaking or failing
- An optional faser-composite layer in the pipe reduces linear expansion of the pipe by up to 75% compared to plastic piping

CONTACT:



919 W. 500 N. • Lindon, UT 84042 • 801-805-6657

www.aquathermpipe.com