

A PEACH OF A PROJECT



The 22-story Windsor Over Peachtree condominium building features commanding views of downtown Atlanta and the surrounding area (left). Above: Aquatherm pipe in place at Windsor Over Peachtree. Its virtually leak-free performance impressed the installing contractor.

PROJECT:

Windsor Over Peachtree
condominiums
HVAC system

PRODUCTS:

aquatherm blue pipe®

LOCATION/DATE:

Atlanta, GA
December 2017 - July 2018

AQUATHERM ADVANTAGES:

- The virtually leak-free performance of heat-fused Aquatherm pipe impressed the contractor — only five leaks were detected out of more than 4,000 fusion welds
- The ability to fabricate risers offsite presented considerable installation time savings over steel pipe, and dramatically reduced system downtime in an occupied building
- As this was an occupied building, the ability to install new pipe without welding or open flame was of paramount importance to the building owner

Aquatherm PP-R pipe played a sweet role in bringing new comfort to the residents of a high-rise condominium building

It's never a good thing when your building is known as “the leaky building.”

That, however, was the unfortunate reputation of Windsor Over Peachtree, a 22-story, 265-unit condominium building in Atlanta. The vapor barrier on the 53-year-old building's existing steel and copper piping had deteriorated, and the condensation that was forming on the pipes was causing them to break down from the outside in. The combination of leaks caused by age and damage caused by dripping condensate was proving to be a regular and ongoing challenge in the building, and the need for an upgrade was apparent.

As might be expected in a half-century-old building, the challenges with the HVAC system ran deeper than just the piping. Foremost among the other issues was that the old two-pipe fan-coil system was struggling to keep up with the cooling demand during Atlanta's hot summers. So when the money for an HVAC system upgrade was allotted, it was decided that a new system of water-source heat pumps — sized to handle the building's 500- to 600-ton cooling demand — would replace the old fan-coil system that had been sized for a 300-ton demand.

'NOT YOUR TYPICAL PLASTIC'

For Joe Escher, Vice President of E. Escher Inc. Mechanical Contractors, Roswell,



At Windsor Over Peachtree, the piping had to run through 8-in. thick concrete floors with 10-in. square blockouts.

GA, the project represented his firm's first opportunity

to perform a large-scale installation of Aquatherm PP-R piping.

“This wasn't your typical job where an engineer draws up a spec and everybody follows it,” Escher said. “We worked closely with the engineer and the building owner in a collaborative effort to determine the best equipment and the best piping system.”



Escher was on board with the conversations between the building owner and engineering firm about using Aquatherm, but he also wanted to see for himself the benefits of PP-R pipe. To that end, he took some sections of 2½-in. Aquatherm pipe and tried to drive a nail through them with a hammer. That's

when he realized, "This is not your typical plastic."

Escher pointed out that he also researched the pipe using more sophisticated methods, but he does not discount the value of the hammer-and-nail test.

"Aquatherm is a plastic, but don't even consider equating it to something like PVC or CPVC. It doesn't even compare to those pipes. It's in a class of its own."

— Joe Escher, Vice President, E. Escher, Inc. Mechanical Contractors, Roswell, GA

"Aquatherm is a plastic, but don't even consider equating it to something like PVC or CPVC," he said. "If you look at a cross-section of it you can see that it doesn't even compare to those pipes. It's in a class of its own."

Ultimately, the decision to use Aquatherm pipe to serve the new heat pump system was an easy one.

The building management didn't want to use any flame or welding in an occupied building, and the project's engineer didn't like the idea of having a copper-press system behind the walls. Aquatherm turned out to be the perfect solution.

IN WITH THE NEW

At the Windsor Over Peachtree project, more than 6,000 ft of Aquatherm Blue Pipe® SDR-11 ranging in size from ½-in. to 4-in. was installed, along with new Raypak boilers, Evapco cooling towers, Bell & Gossett pumps, and JCI-branded WaterFurnace water-source heat pumps.

Installation was made challenging because the floors were concrete slabs 8-in. thick, with blockouts approximately 10-in. square in identical locations from the fourth through the 20th floors. The existing risers went straight up through the blockouts without any offsets.

It was determined early on that the ability to fabricate Aquatherm offsite and transport the fabricated spools to the jobsite ready to install was going to be an important component of this



Windsor Over Peachtree is a 265-unit condominium building built in 1965.



At this project, Aquatherm Blue Pipe® replaced an old and leaky system composed of steel and copper pipe.

project. Escher personally drew up the 16 sets of risers needed for the project and they were fabricated by one of Aquatherm's distribution partners. The risers consisted of 1¼-in. through 4-in. pipe, with ¾-in. runouts.

"We had more than 4,000 joints in this system, and we had five leaks," Escher said. "On a typical solder job we'd expect around three percent. So we were very impressed with the extremely minimal leakage of the Aquatherm."

Also impressive was the time savings of the offsite fabrication. Escher estimated it saved about four to five days per rise and allowed his company to use its shop personnel in the field. The result is that without adding any costs we were able to dramatically reduce the time to complete the project," he said. "This was very important because whenever we took a riser out of service we had about 20 condos that

did not have heating or cooling until the new Aquatherm piping and WSHPs were installed and operational."

Escher noted that the light weight of PP-R pipe provided an added benefit.

"We had to take all the piping up in elevators, in nine-foot maximum sections, and even the four-inch pipe could easily be carried and handled by one person," he said.

The installation and onsite heat fusions were performed by Escher's team using McElroy irons and McElroy Spider® 125 Chain Clamps, which allowed heat fusions to be performed in the tight quarters of the blockouts.

Unistrut Metal Framing Systems and Walraven hangers were used to position the new piping spools in the existing blockouts.





Aquatherm pipe was able to be heat fused and installed in tight quarters without welding or open flame, which was extremely important in an occupied building.

“It was very simple and it worked perfectly,” Escher said.

BENEFITS IN OCCUPIED BUILDINGS

Other piping options such as steel and copper were initially considered for Windsor Over Peachtree, but the engineer had misgivings about those options in an occupied building.

“We were looking for a way to avoid welding or brazing pipe in an occupied building,” said

Tim North, P.E., LEED AP, principal, Johnson, Spellman & Associates Inc. “The fact that no hot work permit was required was an important factor for us in selecting Aquatherm.

It was the best solution in an occupied building.”

In addition, Escher noted that unlike welding, Aquatherm’s heat fusion process gives off no fumes or VOCs. That added to its attractiveness for Windsor Over Peachtree.

INVESTIGATION LEADS TO APPRECIATION

Although this was Escher’s first opportunity to use Aquatherm PP-R piping on a large-scale project, he and his team already feel like old hands with it.

And he offered some advice to other contractors and engineers who are considering Aquatherm for a piping project.

“Do what we did,” Escher said. “Investigate it, took at other projects that have used it and talk to contractors who have installed it. You’ll find the same things I did: it’s tough, it’s lightweight, leaks are almost non-existent, and it has a builtin insulation value that may allow you to reduce the thickness of the insulation. In addition, the lack of flame and welding makes it very well-suited for retrofit projects.”

The fine aesthetic value of Aquatherm compared to steel also shouldn’t be overlooked, Escher added. “This system is running at 45°F to 90°F and didn’t require insulation,” he said.

“However, we have some runs that are exposed in corridors, and if we had used steel pipe we would have had to paint it. Aquatherm on the other hand, has an attractive exterior.”

A final bonus for Escher and his people on this project is something that can be all too rare in the construction industry: appreciation. The building went from a two-pipe system where the main HVAC system was either in heating or cooling mode to a system that can provide concurrent heating and cooling based on individual occupants’ preferences.

“Many tenants have been blown away by how comfortable it now is in their spaces,” Escher said. “We got tons and tons of compliments. So it was a very good project for us. The condo owners are happy, the building management is happy, and it worked out well for us. We’re very pleased and proud of this job.” 🍷



Offsite fabrication helped speed this project along, as ready-to-install risers were shipped directly to the jobsite.

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 percent compared to plastic piping



801-805-6657
www.aquatherm.com

aquatherm

we’ve got a pipe for that