

INNOVATIVE PIPING SYSTEM SOLVES FAMILY OWNED BUSINESS'S PRODUCTION DILEMMA



PROJECT:

Barlean's Organic Oils,
Chilled Water

PRODUCTS:

aquatherm blue pipe®

LOCATION/DATE:

Ferndale, WA
Fall 2010

AQUATHERM ADVANTAGES:

- Weighs up to 75% less than comparably sized metal pipes, offering easier installation
- Heat-fused connections and corrosion resistance eased concerns of system leakage and failure
- The final system worked without leaks and came in on budget

As former commercial fishermen who decided to develop their own line of organic oils, the Barlean family was no stranger to innovation. A manufacturer of nutritional lipids products based in Ferndale, WA, family-owned Barlean's Organic Oils LLC grew so rapidly, it soon needed its own fish oil production facility.

Building a manufacturing center of this type proved to be no small feat. While not a clean room, the facility needed to be extremely sterile to produce all-organic, non-genetically modified oils for customer consumption across the United States.

The new facility also required a precise air conditioning system as well as a superior chilled water piping system to control heat created during the oil production and gel capping processes. Additionally, the piping system had to be durable, resistant to pressure and stress cracking, and virtually leak-free.

Recognizing the importance of plumbing in an oil-production facility, Mike Fox of CPI Plumbing & Heating in Mount Vernon, WA, was determined to find the right piping system solution for the Barlean family's business.

NAVIGATING PROJECT CHALLENGES

The project's largest complication was that the new manufacturing facility already was in the finishing stages by the time Fox arrived on site. "All other trades had completed their work, so installing a chilled



piping system was going to be a challenge, to say the least," Fox recalled.

Navigating a suspended ceiling as well as completed wall and floor finishes while trying to install chilled water piping systems on three oil production lines was not going to be easy.

Fox's next challenge was choosing a piping material. Because of limited installation room, the facility's finished interior, and the weight of the pipe, "welded steel was out of the question," Fox said.

Additionally, "steel would require the use of additives, as would copper. I found fault with all of the materials I or other contractors with whom I had worked had previously installed. Plastic seemed like the obvious choice; however, many PVC systems have failed due to stress cracking."

HEAT FUSION TO THE RESCUE

Fox then remembered a phone call from an Aquatherm manufacturer's representative who recently had used Blue





the pipe. The seamless heat fusion connections combined with PP-R's resistance to corrosion and abrasion, eased leakage concerns.

With a maximum operating pressure of 30 psi, the chilled water piping system used approximately 1,000 feet of Blue pipe, consisting mainly of 3-in.-dia. supply and return chilled water mains with 2-in. diameter piping running out to air handling units (AHUs). Featuring variable-frequency drive (VFD) pumps, the system was going to be experiencing pressure changes based on

flow requirements – yet another reason Blue pipe caught Fox's eye.

Pipe polypropylene-random (PP-R) piping in a reclaimed water project. "I remembered his excited explanations of the product, its versatility and ease of installation, and its warranty, which was very important to us," Fox said. "We wanted a piping system that would last the life of the facility with no worry of warranty issues." When installed by Aquatherm-trained and certified technicians, the pipe and fittings carry a 10-year, multimillion-dollar warranty covering product liability, personal injury, and property damage.

"We were able to install the system without a hitch. The install was even easier than I had planned. Following the factory procedure for testing, which is very extensive, we were happy to find our system was completely leak free. I'm confident that would not have been the case with any other materials. The owner, our crew, and I were impressed with the Climatherm product. We made the right choice."

-Mike Fox, CPI Plumbing & Heating, Mount Vernon, WA

Although Barlean's maintenance manager, Mark Lemna, had never heard of Aquatherm's PP-R piping prior to this project, he "solely relied on the recommendations of the installer. The piping came highly recommended."

Blue pipe uses heat fusion to form connections, a process often used in natural gas piping because of its reliability. Heat fusion bonds both sides of a joint into a single, homogenous material without the use of chemicals or mechanical connections, which eliminates systematic weaknesses and points of failure in



"We are confident Climatherm [Blue Pipe] succeeded in resolving any issues we could think of concerning the liquid product used and the pressures the system would encounter," Fox said. "The Climatherm [Blue Pipe] product seemed like a no-contest decision."

Other mechanical equipment used in the project included a Bry-Air exterior AHU, a Canatal interior vertical floor-mounted AHU, a Carrier chiller, and an EnviroSep pump skid pack.

MAKING THE 'RIGHT CHOICE'

When the project was completed, "we fired the system up, and everything worked perfect," Fox said, adding that the plumbing aspect of the job


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Additionally, Lemna plans on using Aquatherm Blue pipe when the facility expands its production lines.

"We haven't had any problems at all with the system," he said. "It is holding up well." 

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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