

MONTANA CAR DEALERSHIP SHIFTS TO AQUATHERM PIPE FOR THREE-BUILDING PLAZA

PROJECT INFORMATION

PROJECT	PRODUCTS USED	LOCATION / DATE
Billion Auto Group, Domestic Water, Snowmelt, Propylene-Glycol, Hydronic, Compressed Air and Nitrogen, Ethylene Glycol, Motor Oil, Transmission Fluid, Methanol	aquatherm green pipe® aquatherm blue pipe® coiled aquatherm blue pipe®	Bozeman, MT, Fall 2011- Spring 2012

AQUATHERM ADVANTAGES

- The original plumbing bid using copper and stainless steel was \$260,000 whereas incorporating Aquatherm dropped the bid to \$180,000
- Dealership owners liked the eco-friendly aspect and the seamless heat fusion connections of Aquatherm joints and fittings
- Once installed, dealership workers were pleased that the Aquatherm pipes have a natural insulation which, unlike other pipes, provide a comfortable temperature in the mechanical room



THE CHALLENGE

With over 100,000 feet of pipe needed for water, HVAC, and supporting the mechanical processes, designers sought a pipe they could use for most, if not all, systems

THE SOLUTION

Heat-fused Aquatherm pipe was used for a huge array of applications, providing upfront material and labor savings

Aquatherm PP-R Piping systems prove valuable for snowmelt, chemical applications and more.

While customers were in pursuit of the perfect "Billion Deal" at the Billion Auto Group in Bozeman, MT, the owners of the car dealership were searching for a piping solution. Focusing on a sales-and-service, one-stop-shop strategy, the owners planned a new auto plaza comprised of three branded buildings: Chrysler, GMC, and Nissan.

The complex features show floors and lots, two service departments, a body shop, a self-service carwash, and a custom detail shop. With all of these areas needing a large amount of pipe, the project's designers sought a single type of piping that could be used for heating, water, snowmelt, and chemical applications.

Although an original proposal slated Aquatherm only for a simple boiler hookup, Egbert Electric and Plumbing President Phil Egbert, the project's plumbing contractor, had a hunch the company's polypropylene-random (PP-R) piping systems would be useful for more than just water. German-manufactured Aquatherm has been used in PHVAC applications in more than 70 countries for four decades.



Opened in June 2012, Billion Auto Group, which is comprised of more than 60,000-sq-ft of building space, now uses Aquatherm PP-R piping systems throughout its facilities for the following applications:

- Domestic water
- Propylene-glycol hydronic heating (in-floor radiant)
- Compressed-air tools
- Ethylene glycol (anti-freeze)
- New motor oil
- Waste oil from service bays to waste-oil boiler storage
- Automatic transmission fluid
- Methanol for windshield washer fluid
- Compressed nitrogen to charge tires
- Snowmelt

MAKING THE RIGHT CHOICE FOR THE PROJECT

Although steel piping was considered for many of the chemical applications and copper was planned for the water requisites, Egbert showed the dealership owners the upfront cost and labor savings that could be realized with Aquatherm PP-R piping systems. While the steel and copper markets can be volatile, Aquatherm prices are quite stable and typically lower than traditional metal piping options when the total cost of the job is considered. And because PP-R piping is lighter and connected by clean, simple, and quick heat fusion connections, getting an Aquatherm piping system up and running typically requires less time and labor.

The dealership owners were very interested in Aquatherm's unique welding process. "They liked the fusion aspect," said David Morrell, president of Ridgeline Mechanical Sales. Ridgeline, which has offices throughout the Northwest and a reputation for detailed product knowledge and support, provided extensive details about the highly engineered pipe that has proven to be extremely durable, chemically inert and corrosion-proof.



Aquatherm's unique heat-fusion welding technique provides joints that are more reliable than other methods. Heat fusion bonds both parts of a joint into a single, homogenous material without the use of chemicals or mechanical connections, which eliminates systematic weaknesses and fail-points in the pipe. The heat-fusion joints maintain the same properties as the pipe itself, so physical stresses will not damage their integrity. Fewer leaks mean lower maintenance costs.

Familiar with Aquatherm and having used the product on previous jobs, Egbert owned



the fusion welding equipment needed. His crew was already trained on the heat fusion process, so no time was wasted when constructing the piping systems at the dealership.

GOING GREEN A TOP FACTOR

The dealership owners also wanted a piping product that was good for the environment. "Billion Auto Group is very environmentally responsible," Morrell said. "This was a way for us to provide a good product that was also green — good for the environment."

"THERE WERE A LOT OF CHANGES ON THE JOB THAT RESULTED IN PRETTY LARGE SAVINGS, AND AQUATHERM DEFINITELY PLAYED A BIG ROLE IN THAT. IT WAS ALL GOING TO BE STAINLESS STEEL, BUT WE USED IT [AQUATHERM] ON TRANSMISSION FLUID, ANTIFREEZE, WASTE OIL, WIPER FLUID, COMPRESSED AIR AND NITROGEN, ETC. IT WORKED OUT REALLY WELL."

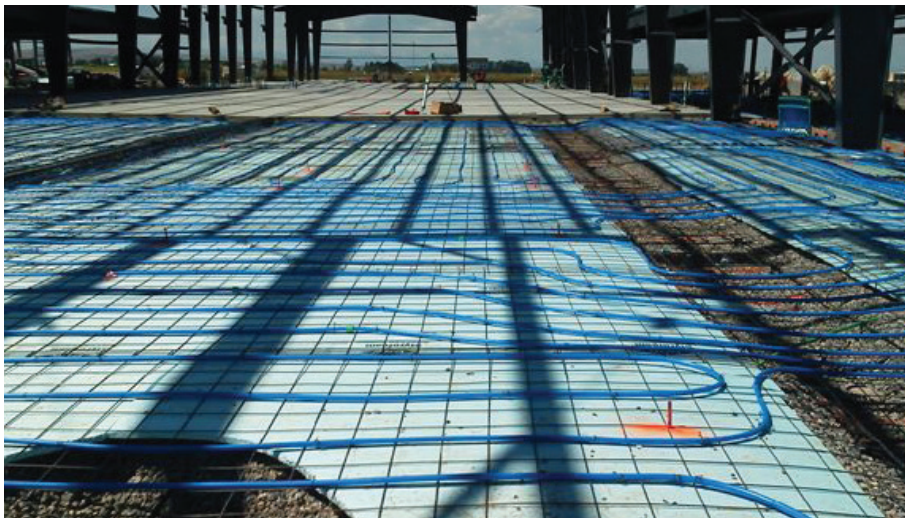
—PHIL EGBERT, PRESIDENT EGBERT ELECTRIC AND PLUMBING, BOZEMAN, MT

From raw material to installed end product, Aquatherm PP-R piping systems require less energy to produce than comparable alternatives. Additionally, the systems are chemically inert and the fusion connections contain no foreign materials, so the piping will not gradually contaminate its source water. Reduced head loss within the pipe also helps save energy throughout the system's life cycle.

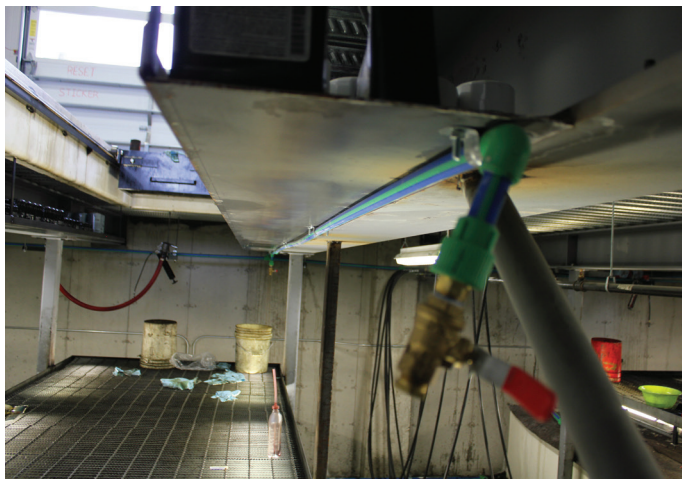
KEEPING COOL

Egbert used approximately 100,000 ft of Aquatherm Blue Pipe® (formerly Climatherm) and Green Pipe® from ½- to 4-in. sizes on the project. While Blue Pipe was used for most of the chemical applications, Green Pipe was selected for the potable water.

Specially engineered for hydronic, geothermal and industrial applications, Blue Pipe resists the scaling and corrosion that reduces the performance of other piping systems. Green Pipe,



a pressure pipe system that is designed for potable use but offers a tremendous range of uses, was selected to fulfill the project's potable-water requirements. The walls of Aquatherm PP-R piping systems generate less friction than other systems, eliminating the abrasion that can cause pin-holing and shorten the lifecycle of the pipe.




Once the piping was installed, the dealership owners were impressed that the boiler room didn't feel like a sauna. "The boiler room is much cooler because Aquatherm doesn't give off heat like copper would," Morrell said.

\$150,000-PLUS SAVED

According to Egbert, the original bid for the plumbing system using copper and stainless steel was \$260,000 and using Aquatherm and integrating other design changes resulted in the bid dropping to \$180,000. Additionally, the original \$180,000 heating bid dropped to \$102,000. "There were a lot of changes on the job that resulted in pretty large savings, and

Aquatherm definitely played a big role in that. It was all going to be stainless steel, but we used it [Aquatherm] on transmission fluid, antifreeze, waste oil, wiper fluid, compressed air and nitrogen, etc. It worked out really well," Egbert said.

When all was said and done, the owners got exactly what they wanted: a cost-efficient, comfortable and environmentally responsible car dealership and service plaza that attracts customers year-round. With two years of the systems in full operation under their belt, the Billion maintenance staff reports that the systems have performed flawlessly. 



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 1.4 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

CONTACT:



500 S 500 W • Lindon, UT 84042 • 801-805-6657

