

WHEN 'SEEING RED' IS A GOOD THING



PROJECT:

McElroy Manufacturing Office Space, Sprinkler

PRODUCTS:

aquatherm red pipe®

LOCATION/DATE:

Tulsa, Spring 2014

AQUATHERM ADVANTAGES:

- Aquatherm Red Pipe® is semi-flexible which provided an advantage since this retrofit job required installation in the existing ceiling grid
- The installation team liked that they didn't have to use glues and sealants to join the pipe
- Aquatherm Red Pipe® is connected by heat fusion, rather than traditional connections, which caused fewer workplace disruptions than other piping systems might have

Aquatherm Red Pipe® solves sprinkler piping issues at 11,300-sq-ft manufacturing facility

Aquatherm's Red Pipe® for fire protection systems has been used with much success internationally for years, and now it is making its way to the United States.

One of the first projects using Red Pipe®, which is made from polypropylene-random (PP-R), was christened at McElroy Manufacturing in Tulsa. The fusion welding machine and finned tube machine company was in the market for an updated fire safety piping system for an 11,300-sq-ft office facility. They had already experienced what can happen with a traditional piping system: a sprinkler pipe froze and broke at the fitting, causing flooding and extensive property damage.

Aquatherm North America had only recently acquired the rights to sell Aquatherm Red Pipe® in the U.S., adding a dedicated sprinkler solution to its lineup of piping solutions. Now building owners, contractors and engineers have the ability to specify a pipe system that can typically withstand the stress that comes from water freezing inside the pipe, and a pipe system that resists corrosion, rust and scale buildup. That means there's constant flow in the pipe and lower maintenance costs.

Formerly known as Aquatherm FireStop FusioLEN® PP-R, Aquatherm Red Pipe® belongs to the Aquatherm family of PP-R piping systems which includes Green Pipe®, Blue Pipe® and Lilac Pipe® which are growing in popularity in the U.S. for potable water,

heating and cooling, industrial, compressed air, geothermal and graywater applications.

A WIN-WIN

McElroy designs and manufactures machines that fuse thermoplastic pipe together to create permanent, leak-free connections. The Red Pipe® project was a unique opportunity for McElroy to not only be one of the first users of Red Pipe® in the U.S., but to test their latest socket fusion machine products designed specifically for polypropylene pipe in one of their own office buildings.

Fusion occurs by heating two pipe ends to a designated temperature, then pressing them together with sufficient force, causing the pipe and fitting to become one solid piece with no leak path. The resulting fusion produces a joint that is as strong, or stronger than the pipe itself.

"We want to promote the technology and there's no better way to promote its use than to become a user," said Chris Greggs, Senior Account Manager with McElroy. "We wanted to gain some firsthand experience in the installation because there may be an opportunity for new product innovations."

McElroy trained nine people from APS Fire of Broken Arrow, Okla., on the Spider™ 125 and Spider 125 with Universal Clamping which were used to socket fuse the 1-in. to 2 ½-in. Red Pipe® used in the installation.



WHEN A SPIDER OVERHEAD IS GOOD

The Spider 125 tools are lightweight and compact and are designed to operate in indoor spaces that are often extremely tight. Socket fusions can be performed overhead or sideways, making it easier on the operator to overcome the challenges of installing pipe in such close quarters.

For Adam Bolin, Foreman for APS Fire, it was his first experience using polypropylene pipe and heat fusion equipment.

"It's kind of a cool opportunity," Bolin said. "It's pretty easy though. I like it. It's clean. It's really light and easy to work with. The machines are easy and straight forward."

There's another reason installers like polypropylene. It's lightweight. Installations are quicker and less strenuous because it weighs 75-80% less than metal pipe, yet provides more strength and dependability than many other thermoplastics.

Red Pipe's® flexibility (relative to metal pipe) also provided an advantage since this retrofit job required installation in the existing ceiling grid.

"It was easier to be installed through the grid because carbon steel or 'black pipe' does not bend," said Scott Reeder, a polypropylene account manager at McElroy, and former facilities manager.

AN UNINTERRUPTED WORK DAY

Less disruption to the workplace was another benefit. Since Red Pipe® is connected by heat fusion, they didn't have noisy threading machines onsite that are used in traditional

metal connections. Also, fusing PP-R doesn't involve any significant odors or require a flame/hot work permit. More than 40 people work in the building and were able to continue their duties at their same work stations each day throughout the project.

Installers also didn't have to deal with messy glues and sealants to join the pipe.

"Since it was an existing work space, we wanted to keep the mess to a minimum," Reeder said. "When you install carbon steel pipe you have to cut and thread pipe which can cause a mess inside the building because you have to use cutting oil when threading pipe."

"It's pretty easy...I like it. It's clean. It's really light and easy to work with. The machines are easy and straight forward."

— Adam Bolin, Foreman, APS Fire, Tulsa

Polypropylene pressure pipe has FM approval in the FM 1635 class (No. 3036285) and features many of the same advantages as other Aquatherm systems.

Other advantages of Aquatherm pipe are its eco-friendly characteristics. It will not react with most chemicals, it is recyclable and requires



less manufacturing processes and energy than metals, and does not give off any VOCs during installation or use.

PEACE OF MIND

Aquatherm Red Pipe® is offered in pipe diameters ranging from ¾-in. to 4-in. and can be utilized in a range of light-hazard commercial and residential applications. The pipe and fittings carry a 60-year rating as well as Aquatherm's 10-year multimillion dollar warranty (underwritten by Zurich Insurance) covering materials, labor, property damage, and loss of use of the facility.

The system has been performing well since its successful launch last summer.

"The addition of a state-of-the-art fire protection system installed with the best tools and pipe on the market is a great asset to our building and a great comfort knowing that our lives and property will be protected for years to come," Reeder said. "We did it right." ☐



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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