June 2008

Phc News

plumbing & hydronic contractor news

Piping Report

PEX education boosts use in residential water systems

With PPI support more states approving use of flexible plastic pipe

Irving, Texas — The Plastics Pipe Institute, a Texas-based not-for-profit organization, is providing educational sessions, materials and expert testimonials for state legislators, enabling PEX pipe to earn wider acceptance in state and local municipalities.

PEX (flexible cross-linked polyethylene) pipe is gaining popularity as a product that satisfies the needs of homeowners, builders and plumbers by providing long-term performance, and making installations more labor and cost efficient. PEX is the material of choice for radiant heating systems and is quickly replacing copper for residential potable water plumbing. Other applications for PEX include: AWWA municipal water service; snow and ice melt systems; turf conditioning; and residential fire sprinklers. Typically found in sizes from 3/8" to 2" dia., PEX pipe comes in straight lengths or coils and is made from a toughened plastic compound.

"Even though PEX pipe was developed in the 1970s and gained widespread acceptance across Europe in the 1980s, the product is just now gaining a strong foothold in North America," explained Tony Radoszewski, executive director of the PPI. "When states and municipalities learn about the performance and economic benefits of PEX pipe, we see greater acceptance of the product."

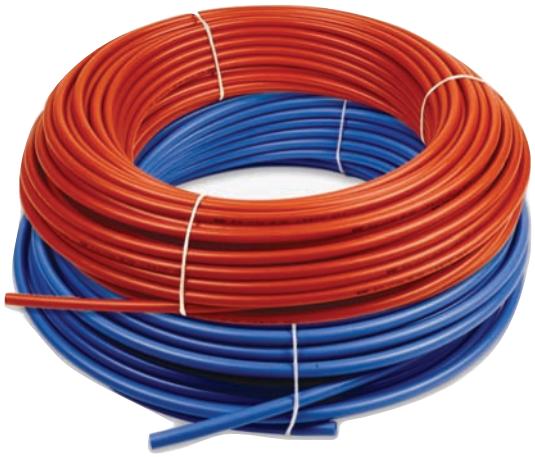
Founded in 1950, the PPI is the major trade association representing all segments of the plastic piping industry.

According to the National Association of Home Builders *Research Center Design Guide*, PEX pipe is efficient to install because it is flexible and uses mechanical fittings, eliminating the need for soldering and the flames and chemicals associated with "sweating" joints. It also resists corrosion and scaling. A PEX plumbing system is also cost effective because it is less labor intensive and can optimize system performance.

"Besides the performance and economic benefits of PEX pipe, there are environmental ones as well," Radoszewski added. "PEX pipe supports green building initiatives because it is energy efficient due to reduced heat loss through the pipe wall and it conserves water by reducing the wait time for hot water to reach the fixture."

PEX is approved in all North American-model plumbing codes for hot and cold potable water distribution systems, but sometimes its use requires legislative action.

In June of 2007 the Arkansas General Assembly passed House Bill 1456 that stated "...the newer, more flexible plastic pipe for water distribution..." be allowed. The bill contained an emergency clause that "...construction projects will be slowed and their costs increased until PEX pipe is approved..." Furthermore, an emergency was declared "...for the preservation of the public peace, health, and safety..."



PEX pipe, developed in the 1970s and popular across Europe since the 1980s, only now is gaining strong acceptance in North America.

"Even with the passage of this Bill, inspectors in Arkansas would not sign off on a PEX system because they simply didn't understand the product and because they were getting different information from a dozen different manufacturers," Radoszewski explained.

"So, just as we have done with many other groups, our staff and members embarked on an educational mission," said Radoszewski. "In this case PPI spoke with the Arkansas legislators and other state and local officials to explain the features and benefits of PEX pipe. As a result of this meeting, the inspectors have since been directed by the Arkansas Department of Health to use

the NAHB *Research Center Design Guide*. We have been told that the code changes were expected to become effective by February 2008."

The PPI frequently conducts these educational on-site seminars and workshops. Camille Rubeiz, P.E., director of engineering for the PPI, discussed the Arkansas situation.

"The Arkansas Home Builders Association (AHBA) requested PPI educate the legislators about PEX. Following this meeting, the state's health depart*(Continued from page 52.)*
tment, asked PPI to conduct a seminar for about 250 plumbers and inspectors so they could learn how easy it is to use PEX pipe and get the facts so they would be confident in its health, performance and long life features. I was very surprised that there were only three plumbers in the class who admitted to have used PEX."

"This positive change could not have been affected without the intimate knowledge PPI brought to our sessions," stated Julie Mills, executive vice president of the AHBA. "We knew some plumbers were reluctant to use PEX piping due to a lack of experience with its installation and design requirements. The PPI seminar and the NAHB Research Center PEX Design Guide made everyone realize how beneficial PEX pipe is and how it should be used properly. This message was also reinforced during a statewide inspector training school conducted in August 2007."

AHBA has 2,500 members representing all aspects of the residential construction industry in Arkansas.

In the nation's capitol area, the Washington Suburban Sanitary Commission adopted the International Code Council Plumbing Code. The WSSC serves the country's eighth largest water and wastewater utility serving 1.8 million customers in the Prince George's and Montgomery Counties in Maryland. In an effort to support the WSSC, PPI staff and members testified in favor of the code change and donated a number of copies of the NAHB *Research Center Design Guide* to the Commission and offered to train plumbers and inspectors. The ICC code became effective on May 1, 2007 allowing the use of PEX pipe thus providing a solution to a burgeoning problem with pinhole leaks in copper pipe.

The ICC, a membership association dedicated to building safety and fire prevention, develops the codes used to construct residential and commercial buildings, including homes and schools.

In 2003 the state of Maryland passed a bill creating a task force to investigate the cause of copper pipe pinholes, which had become increasingly prevalent in the area, and to determine recommendations.

Suspected causes are many for deterioration of a pipe that should last more than 50 years. One cause surmised that improved water standards removed impurities that actually create a protective barrier in copper pipe, which would have prevented pinhole leaks. Research by Dr. Marc Edwards, professor of Civil Environmental Engineering at Virginia Tech, showed that the pinholes in copper pipe are caused by water. In order to comply with the Safe Water Drinking Act of 1991, water treatment plants began disinfecting drinking water with chloramines instead of free chlorine. This removed the natural organic matter from the water that made it safer to drink but also made it very aggressive to copper pipe. PEX pipe was found to be impervious to both free chlorine and chloramines.

According to PPI's Rubeiz, the use of PEX will continue to grow. "Just as polyethylene pipe is now the accepted standard for critical applications such as natural gas distribution, it is becoming more and more accepted for use in water lines.

The PPI is available to conduct training and informational sessions for companies, municipalities and other groups and organizations. PPI's executive director Radoszewski stated, "As people look for alternatives to existing materials, our educational programs are becoming more and more popular. And as the industry continues to develop, we continue to update our information with new industry facts and governmental regulations."

One such valuable tool is the *PEX Design Guide*.

"The guide," according to PPI's Rubeiz, "provides the information necessary to design and install a PEX water supply system for a residential building. It meets the needs of homebuilders, plumbers, designers and trade contractors. And it's a wonderful introduction on how to optimize PEX plumbing and minimize system costs. Plus it allows code inspectors, homeowners, builders and other interested parties to become familiar with the applications, performance characteristics and benefits of PEX water supply systems."

Additional information can be found on the PPI website: www.plasticpipe.org.

The PEX Design Guide and an easy order button can be found at http://plasticpipe.org/publications/pex_handbook.html.

PEX pipe beats copper in areas where aggressive water causes pinhole leaks and system failure.

Reprinted with permission from Phc News (*plumbing & hydronic contractor news*), June 2008. Copyright 2008. All rights reserved.
This file is for web posting only; may not be copied or e-mailed.
Provided by The Reprint Outsource, 717-394-7350