PLASTICS·PIPE·INSTITUTE®

THE VOICE OF AN INDUSTRY

Education Committee

Continuing Education Program

Course Outline: Designing PEX Plumbing Systems to Optimize Performance and Efficiency

Crosslinked polyethylene (PEX) tubing has been used for plumbing systems in North America for over 25 years, providing safe delivery of potable water and protecting the health of building occupants. A result of modern polymer technology, PEX tubing performs in ways that provide excellent reliability, durability and safety. This course demonstrates how the properties of PEX tubing and systems can improve the health, safety and welfare of building occupants through reliable long-term delivery of clean water, and provides design guidance to optimize performance.

When designing PEX plumbing systems, some planners use too much tubing, potentially delaying delivery of hot-water to fixtures and increasing installation costs. Others install PEX plumbing in the same way as rigid piping systems, without taking advantage of the material flexibility, and thereby increasing installation costs.

This course is based on PPI's Design Guide: PEX Water Supply Plumbing Systems. It explains piping design methods that can provide faster delivery of hot-water to fixtures, improve overall system efficiency, optimize use of materials, and improve installation efficiency. Design examples are illustrated and compared. Empirical test data is used to provide answers about the best ways to design PEX plumbing systems to optimize performance.

The Design Guide is available here: http://plasticpipe.org/publications/pex-handbook.html

Learning Objectives: By the end of this course, participants will be able to:

1. Explain how the properties of PEX tubing and fittings can improve health, safety and welfare through improved plumbing materials
2. Describe three distinct plumbing layouts using PEX systems and compare advantages and disadvantages of each
3. Apply test data from published research to demonstrate how design of the plumbing layout can improve system performance and provide faster delivery of hot-water with reduced water waste
4. Direct an installer on correct installation techniques for PEX systems to ensure long-term safety and performance
5. Discuss how to access industry resources for design and installation questions