Plastics Pipe Institute
BUILDING & CONSTRUCTION

PPI Continuing Education Program

Plastic Pressure Piping Materials for Plumbing & Mechanical Applications

Course Outline: Specifiers and designers of plumbing and mechanical systems have several options when selecting the optimal pipe and fitting material for each application.

Considerations include durability, convenience of handling and joining, cost, safety for drinking water, and long-term reliability which includes factors such as resistance to corrosion, mineral build-up, and disinfectants. Other selection factors include sound, vibration, and heat transfer.

This course will demonstrate that plastic pressure pipe and fitting materials deliver affordable and reliable solutions for practically every plumbing and mechanical piping purpose and will help the audience to select which plastic piping material or materials is best for various applications such as:

- Plumbing distribution (hot- and cold-water supply)
- Hydronic heating and cooling (including radiant heating & cooling)
- Fire protection (sprinklers)
- Snow & ice melting (for outdoor surfaces)
- Geothermal ground loops (geothermal heat exchangers)
- District heating applications (buried pipelines)

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

1. Describe the piping materials CPVC, HDPE, PEX, PE-RT, and PP in terms of material properties, capabilities, joining systems, applications, standards, and code compliance

2. Indicate where and how to use these materials in applications such as plumbing distribution, fire protection, hydronic heating and cooling, snow & ice melting, geothermal ground loop, and district heating applications

3. Discuss the design of piping materials in terms of sizing for flow, pressure loss, thermal expansion/contraction, etc. using a free industry-developed software program

4. Explain how to access industry resources related to selecting and specifying the right piping material/s for various applications

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