AEROFLEX

TECHNICAL BULLETIN

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PEX Tubing & Closed-Cell Elastomeric Insulation

Crosslinked polyethylene (PEX) is a flexible polymer-based tubing developed in Europe during the 1960's. Since the 1980's, PEX has become a more common alternative to traditional copper tubing for residential, high-rise residential, and various commercial applications in the North American market.

While copper tubing and piping is appropriate and relevant for most residential and commercial plumbing and HVAC applications, PEX offers several advantages when compared to copper:

- Resistant to corrosion, chlorine, and hard water
- No pitting or pinhole leaks
- Freeze resistant
- Reduced transmission of unwanted noise and water hammer
- Lightweight, easy to transport
- No flame necessary to join tubing
- Less jobsite theft (no scrap value)
- Speed of installation with quick joining options
- Proven durability throughout product life cycle

PEX is most often produced for the North American market in nominal tube sizes (NTS) that match the outside diameter of copper tube sizes (CTS) with a nominal diameter range of ¼" to 3" (coils & straight lengths). Depending on the application, the continuous service temperature range is 32ºF (0ºC) to 180ºF (82ºC). Common applications include the following:

- Hot and cold water plumbing (residential & commercial)
- Hydronic piping
- Chilled water
- Radiant heating and cooling
- Fire protection (residential)
- Reclaimed water (purple pipe)

PEX is also safe – it is code-compliant by meeting the International Plumbing Code (IPC), Uniform Plumbing Code (UPC), International Residential Code (IRC), and NSF for safe drinking water.

When PEX tubing must be insulated to prevent heat loss and condensation, flexible closed-cell elastomeric tube insulation is a proven choice due to its closed-cell structure, ease of installation, and matching tube sizes.

AEROFLEX EPDM™ closed-cell elastomeric insulation has been tested as a composite assembly with PEX and complies with ASTM E84 25/50; < 25 flame spread index, < 50 smoke-developed index. Click here to learn more.

Sources:
Plastics Pipe Institute – https://plasticpipe.org/BuildingConstruction/BuildingConstruction/PEX.aspx
IAPMO - https://iapmo.org/codes-standards-development/code-development/uniform-plumbing-code
International Code Council (ICC) – https://codes.iccsafe.org/content/IRC2024V2.0
NSF - https://www.nsf.org/knowledge-library/water-plumbing-systems-study-results