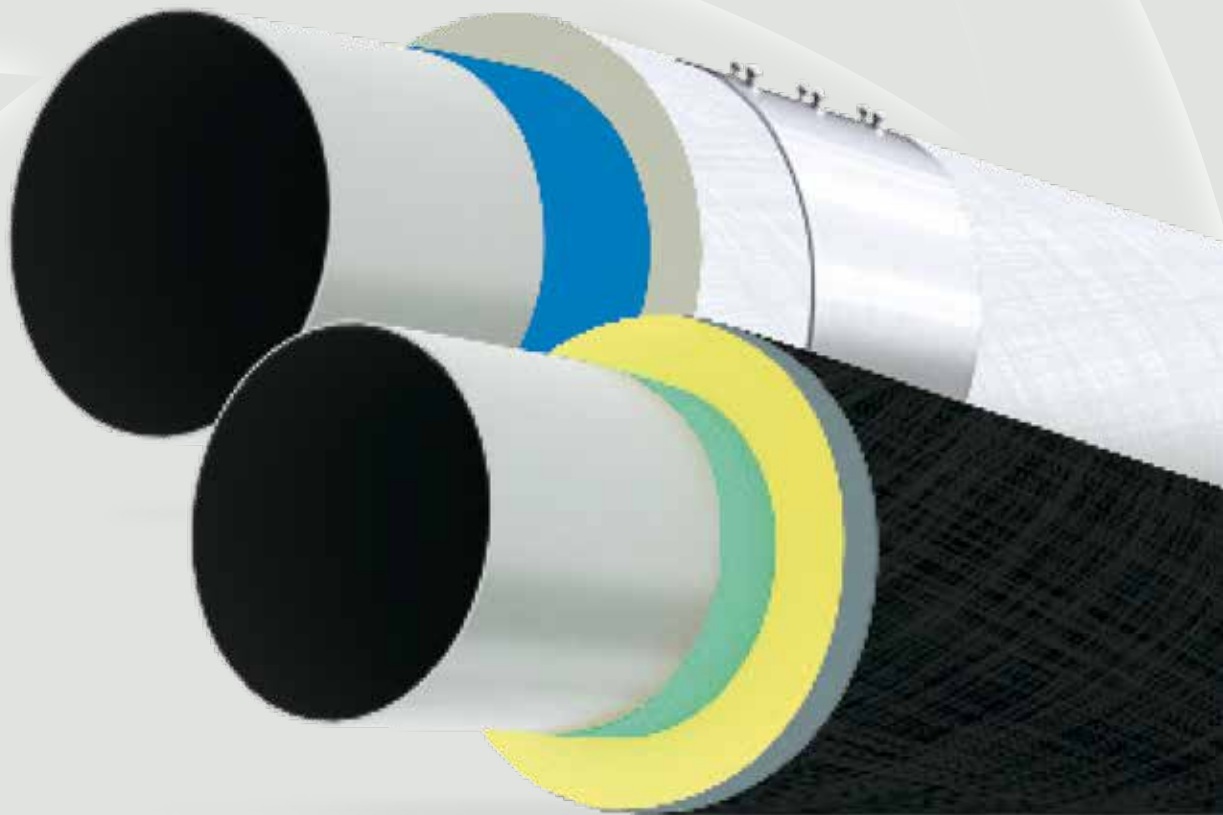


POLY-THERM®

PRE-INSULATED PIPE SYSTEM



PARTNERS IN EXCELLENCE



INSULATION PROTECTION

Pre-insulated piping systems provide operators and owners with many advantages over traditional, field-applied insulation solutions. Greater thermal efficiency, excellent mechanical performance, lower installation costs, and high quality factory-applied materials result in significantly lower total installed and life-cycle costs. As a result, there has been increased use of pre-insulated piping systems in various industries, such as oil & gas, district energy, environmental, and industrial.

These advantages and along with having an expertly designed pre-insulated pipe system, are why you should specify POLY-THERM®.

POLY-THERM PERFORMANCE

POLY-THERM is a pre-insulated pipe system consisting of thermally efficient polyurethane (PUR) or polyisocyanurate (PIR) insulation, a waterproof fiberglass-reinforced polymer (FRP) outer jacket, and a service pipe to meet challenging project requirements. Fabricated in a quality-controlled ISO 9000 facility, POLY-THERM offers:

- Tested and passed the ASTM E-84 Class 1 requirement for fire retardancy (both flame & smoke)
- PUR or PIR insulation free of voids and fully bonded to the pipe and jacket for consistent thermal performance over the system's design life
- A watertight outer jacket preventing corrosion under insulation (CUI) and the associated high costs of inspection, repair, replacement, and downtime caused by pipe corrosion
- Long-term reliability, consistent materials, and fabrication that minimize damage during construction and operation to maximize your return on investment

POLY-THERM FEATURES

- Operating temperatures from -320 °F (-196 °C) up to 250 °F (121 °C)
- Typical compressive strengths up to 90 psi (620 kPa) to prevent damage during construction and operation. Higher compressive strengths are available

- Typical thermal conductivity down to 0.16 Btu in/hr·F²·°F (0.023 W/m·°C)
- Versatile system fabricated in various thicknesses and densities to meet the overall heat transfer design parameters
- Aluminum diffusion barrier is applied to prevent cell gas from dissipating out of the insulation layer and decreasing thermal efficiency
- End finishing can be a square cut or a wind-down end seal configuration preventing water ingress
- Pipe fittings and fabricated parts can be insulated and jacketed with a fiberglass reinforced spray
- Optional heat tracing systems to maintain fluid temperatures for maximum flow assurance
- Optional PermAlert® leak detection systems to detect moisture in the system, which may result in decreased thermal efficiency and creating a corrosive environment
- Optional anti-corrosion coatings applied to the surface of the pipe to prevent corrosion

POLY-THERM SOLUTIONS

POLY-THERM provides long-term insulation for hot and cold fluids in above or below ground applications that comply with industry specifications to ensure quality, consistency, safety, and efficiency. Solutions are available for a wide range of operating temperatures and environments to serve various industries, such as oil & gas, district energy, environmental, and industrial.

PERMA-PIPE offers turnkey services to meet operational and project challenges beyond the piping system that our clients have come to trust. We provide project planning, engineering support for system construction, design assistance and calculations, project management, pre-fabrication services, and field service training certification to reduce your installation, environmental, and safety concerns from start to finish of a piping project. Our extensive track record of successful global projects will showcase our experience.



STANDARD OPTIONS

Option One:

Carrier Pipe
Anti-Corrosion Coating
Polyisocyanurate (PIR) Foam Insulation*
Aluminum Diffusion Barrier
Fiber-Reinforced Polymer (FRP) Outer Jacket*
PermAlert Leak Detection System

*Non-flammable material meets ASTM E-84 Class 1 requirement for fire retardancy (both flame & smoke)

Option Two:

Carrier Pipe
Anti-Corrosion Coating
Polyurethane (PUR) Foam Insulation
Aluminum Diffusion Barrier
Fiber-Reinforced Polymer (FRP) Outer Jacket
PermAlert Leak Detection System

Carrier Pipe Options:

Available in many different pipe materials

Applications:

Oil & Gas
District Heating & Cooling
Environment
Industrial

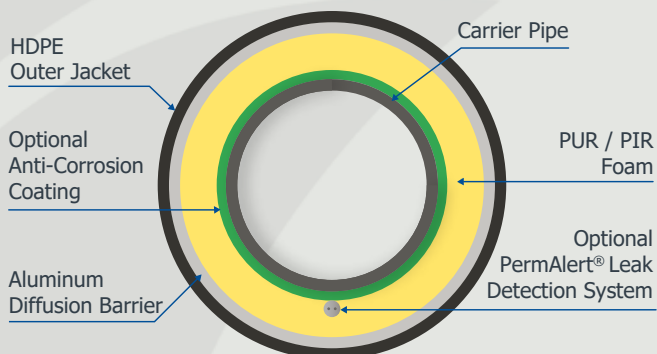


PARTNER WITH PERMA-PIPE

PERMA-PIPE International Holdings, Inc. (NASDAQ:PPIH) is a global engineered pipe services company offering core competencies in anti-corrosion coatings, insulation solutions, containment systems, leak detection systems, engineering support, field service, and custom fabrication.

When you do business with PERMA-PIPE, you are partnering with a company that has served the industry for over 100 years and has vast experience in all the markets we serve. You are not just buying a long-lasting, reliable piping system; you are also investing in a partnership with a company that stands behind its products and services while providing lasting peace of mind.

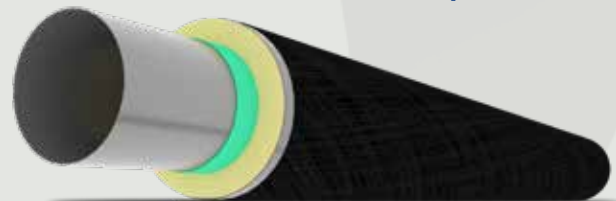
TYPICAL POLY-THERM CROSS-SECTION



Option One



Option Two



The outer jacket's standard color is available in white or black. Also, available in any color, please ask PERMA-PIPE for more information.



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 permapipe.com