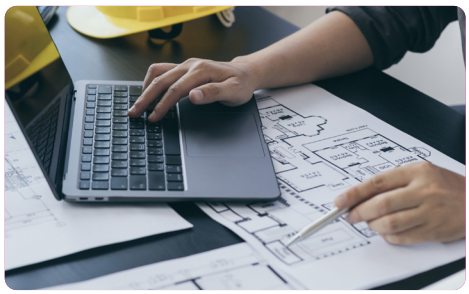
ConduFill®

Thermally Restore Buried Steam & HTHW Distribution Piping

FEDERAL & MILITARY | DISTRICT ENERGY | INSTITUTIONAL | HEALTH CARE | INDUSTRIAL

4-STEP ConduFill® Restoration Process



Step 1: Evaluate Piping System

Examine drawings and physically inspect the distribution system to determine its construction and if a void exists. If so, develop technical and field parameters by which the piping system will be accessed and restored.

Step 2: Access Piping System

Small 18”-24” diameter vac digs at intermediate points above the line may be required to gain access the piping system. Small access points are opened up in the steel, concrete, terra cotta or HDPE outer casing to gain access to the void that is to be insulated. Manholes and vaults are also instrumental in providing additional access points.

Step 3: Inject ConduFill®

Rigid insulation is injected into the target void in between the carrier pipe and the outer casing, expanding 30 times its own volume. A Mobile Pumping Unit (MPU) equipped with pumps, metering equipment, generators, heaters, chillers and holding tanks will establish critical temperatures and pressures before dispensing the polyisocyanurate formulation into the piping system.

Step 4: Restore Surfaces

Any necessary vac digs will be backfilled and street, sidewalk, grass and other surfaces will be restored to specification.

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ConduFill® BENEFITS

Reduce Heat Losses	The minute ConduFil® is injected into a buried piping system, energy savings and reduced fuel costs begin. Restoration usually results in a 40-90% heat loss reduction and an ROI of 2-5 years depending upon on energy costs.
Prolong Service Life	ConduFill® will upgrade and repair the insulation thereby extending the life of the distribution system.
Prevent Water Instrusion	The formulation expands 30 times its own volume to effectively fill the target void and to seal off breaches, cracks and holes that have developed in the outer casing over time.
Avoid Pipe Replacement	The cost of excavating and replacing buried distribution piping ranges from $600 to $2200 per LF. ConduFill® is usually a fraction of that cost.
Eliminate Vapor	Unsightly vapor is usually a sign of poorly insulated distribution piping. The vapor is eliminated as water can no longer get into the system due to the presence of ConduFill®.
Protect Nearby Utility Lines	Nearby utilities such as fiber optic, electrical and water lines can become damaged by the heat of nearby uninsulated distribution piping. ConduFill® will eliminate this conflict and protect from further damage.

ConduFill® Technical Data (HT-450)

Service Temperature
400°F (204°C)

K-factor
.18btu-in/hr-ft²-°F

Density
3.0pcf

Dimensional Stability
-0.20%

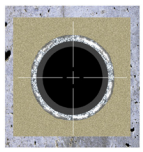
Closed-cell Content
95%+

Water Absorption
Less than 2%

Compressive Strength
16-17.5 psi

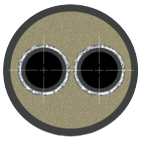
*The below data is based on ASTM testing of in-service ConduFill® samples. All samples were tested by an independent laboratory and have met or exceeded these values.

Common Buried Piping Profiles

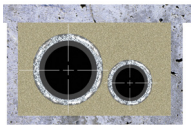


Box-Pour Concrete

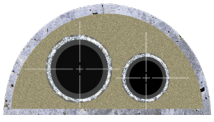
Drainable - Dryable (Class A)



HT Hot Water



Trench



Round Top Concrete

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