

SPIRAL-THERM

METAL JACKETED PIPING SYSTEM



SPIRAL-THERM

THERMACOR'S SPIRAL-THERM is a metal jacketed, factory-fabricated, pre-insulated piping system for above ground and tunnel piping applications. The system is designed with a specified carrier pipe, closed cell high temperature polyisocyanurate or standard closed cell polyurethane foam insulation, and a spiral wound metal jacket. The jacket, either aluminum, galvanized steel, or stainless steel, is manufactured with a rubber o-ring into the locking seams to create a watertight jacket.

Carrier Pipe

- As Specified

Spiral Wound Jacket With Watertight Rubber O-Ring Sealed Seam

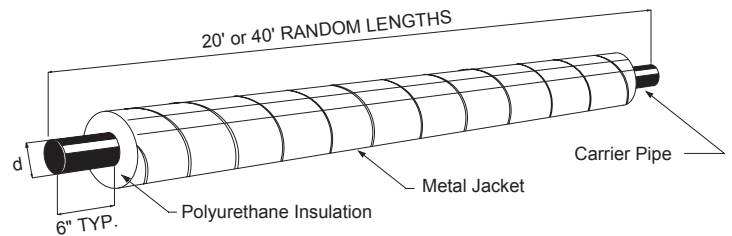
- Aluminum, Galvanized Steel, or Stainless Steel
- Internal or External Seam

Polyurethane Insulation

- Density $> 2.0 \text{ lbs/ft}^3$
- "K" Factor $\leq 0.15 \text{ Btu-in/hr-ft}^2\text{-}^\circ\text{F @ } 75^\circ\text{F}$
- Compressive Strength $> 30 \text{ psi}$
- Closed Cell Content $\geq 90\% \text{ @ } 75^\circ\text{F}$

Polyisocyanurate Insulation

- Density $> 2.7 \text{ lbs/ft}^3$
- "K" Factor $0.17 \text{ Btu-in/hr-ft}^2\text{-}^\circ\text{F @ } 75^\circ\text{F}, \leq 0.30 \text{ Btu-in/hr-ft}^2\text{-}^\circ\text{F @ } 366^\circ\text{F}$
- Compressive Strength $> 30 \text{ psi @ } 75^\circ\text{F}$
- Closed Cell Content $\geq 85\%$
- Minimum Thickness $\geq 2.5"$



SPECIFICATION GUIDE *

GENERAL

All above ground piping materials transporting chilled and heating water, domestic hot water, process fluids, low pressure steam (15 PSIG Max.), condensate return, or cryogenic services shall be **SPIRAL-THERM** as manufactured by **THERMACOR PROCESS INC.** All straight pipe, fittings, insulating materials, and technical support shall be provided by the manufacturer.

SERVICE PIPE

The carrier or service pipe shall be A-53, Grade B, ERW, Standard Weight for pipe sizes 2" and larger and A106/ A53, Grade B, seamless, standard weight for pipe sizes 1.5" and smaller. Condensate piping materials shall be extra strong. Pipe shall be butt-welded for sizes 2" and larger and socket-welded for 1.5" and smaller. Straight sections shall be supplied in 20 or 40 foot random lengths with cutbacks to allow for welding at the field joints.

INSULATION

Insulation of the service pipe shall be rigid polyurethane foam with a minimum 2.0 lbs/ft³ density, 90% minimum closed cell content, and a "K" factor not higher than .15 (Btu-in/hr-ft²-°F) at 75°F per ASTM C518, and shall be CFC-free. The polyurethane foam shall completely fill the annular space between the service pipe and jacket, and shall be bonded to both. Insulation shall be provided to the minimum insulation thickness specified within manufacturing tolerances.

High temperature systems may use polyisocyanurate foam with a minimum 2.7 lbs/ft³ density, 85% minimum closed cell content, a "K" factor not higher than .17 (Btu-in/hr-ft²-°F) at 75°F and .30 at 366°F per ASTM C518, and meets the requirements of ASTM C591.

JACKET

The outer protective jacket shall be 22 ga., spiral wound,

lock seam galvanized steel formed into steel tubes. (*At the Engineer's option*, spiral wound, lock seamed aluminum jacket .032" thick or stainless steel, 24 ga. may be used.)

FITTINGS

Fittings are factory pre-fabricated and pre-insulated, jacketed with a metal fitting cover and insulated with injected urethane to the specified thickness. Carrier pipe fittings shall be butt-welded, except sizes smaller than 2" shall be socket-welded. If required by project specifications, welds shall be radiographically inspected. Fittings include expansion loops, elbows, tees, reducers, and anchors. (*At the Engineer's option*, fittings may be field insulated with mineral wool, fiberglass or liquid urethane foam insulation, jacketed with a metal fitting cover after being sealed with mastic.) Grooved-end systems may be joined with Victaulic fittings and couplings.

FIELD JOINTS

Service pipe shall be hydrostatically tested as per the Engineer's specification with a factory recommendation of 1.5 times the specified pressure of the system. Straight run joints are insulated using poured urethane or sectional urethane foam to the thickness specified, covered with a metal sleeve and sealed with mastic and held in place with (2) 1/2" stainless steel bands. Victaulic couplings are insulated with similar materials. All insulation and jacketing materials shall be furnished by THERMACOR.

INSTALLATION

Installation of the piping system shall be in accordance with the manufacturer's instructions. Factory trained field technicians shall be provided for critical periods of installation, unloading, field joint instruction, and testing.

* *For alternate specifications, please contact THERMACOR.*

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