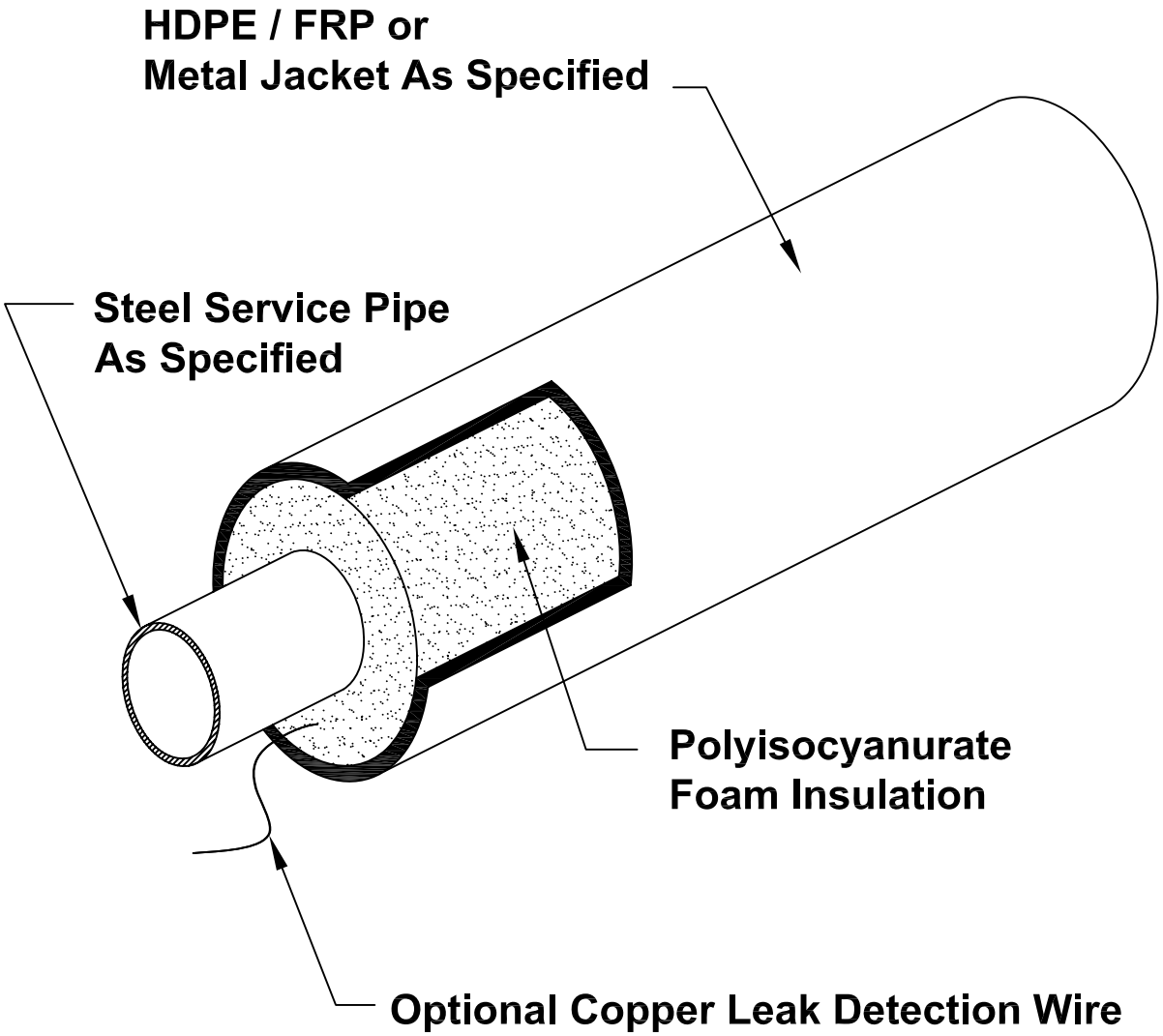
# TRICON STEEL 300 SYSTEM

## For Applications Up To 300° F Below And Above Ground

- □ Low Pressure Steam
- □ Condensate
- □ Condenser Water
- □ Medium Pressure Steam
- □ Heating Hot Water
- □ Process Piping




TRICON
Piping Systems, Inc. ®

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# TRICON STEEL 300 System Specifications

## TABLE 1

| Pipe Size | Minimum Insulation Thickness* | HDPE Jacket O.D. | HDPE Jacket Wall |
|---|---|---|---|
| ½" | 2.70" | 6.63" | .200" |
| ¾" | 2.58" | 6.63" | .200" |
| 1" | 2.46" | 6.63" | .200" |
| 1¼" | 3.00" | 8.00" | .175" |
| 1½" | 2.88" | 8.00" | .175" |
| 2" | 2.64" | 8.00" | .175" |
| 2½" | 2.40" | 8.00" | .175" |
| 3" | 3.08" | 10.00" | .175" |
| 4" | 2.56" | 10.00" | .175" |
| 5" | 3.26" | 12.43" | .175" |
| 6" | 2.73" | 12.43" | .175" |
| 8" | 2.54" | 14.06" | .175" |
| 10" | 3.34" | 17.83" | .175" |
| 12" | 2.34" | 17.83" | .175" |
| 14" | 2.70" | 19.80" | .200" |
| 16" | 2.89" | 22.17" | .200" |

**Service Pipe:**
Carbon steel service pipe shall be standard weight A53 ERW or A106 seamless beveled for welding. Condensate return piping shall be Schedule 80. (Stainless Steel piping shall be Type 304L or 316L.) All joints for pipe 2 ½" and larger in size shall be butt-welded. Sizes 2" and smaller shall be socket welded. Straight lengths of piping will be supplied with 6" of piping exposed at each end for field joint fabrication. Pipe lengths to be supplied in 21-42 ft. lengths.

**Insulation:***
The insulation shall be a foamed in place closed cell polyisocyanurate which completely fills the annular space between the carrier pipe and the exterior casing. The insulation shall have the following physical properties:

| | |
|---|---|
| Minimum Density (lb./cu. ft.) 2.6 | ASTM D-1622 |
| 90-95 % Closed Cell | ASTM D-6226 |
| "K" Factor BTU/Hr. sq. ft. °F/in. . . . **.198** | ASTM C-518 |

**Exterior Casing:****
The exterior casing shall be High Density Polyethylene (H.D.P.E.) ASTM D-1248
with the following physical properties:
ASTM D-3350…Resin Type III, Grade P34
ASTM D-638…Ultimate Elongation 850%
ASTM D-638…Tensile Yield Strength 3300 psi
ASTM D-790…Tangent Flexural Modules 175,000 psi

**No polyethylene tape casings will be allowed.**

**Sub-Assemblies:**
All fittings, anchors, end seals, other accessories shall be prefabricated or field fabricated dependant upon engineer's option and/or site conditions.

**Field Joints:**
After welding and hydrostatic testing, HDPE jackets will use polyisocyanurate foam and a heat shrinkable sleeve or fusion welding of an HDPE sleeve.

**Expansion Compensation:**
Expansion and contraction within the piping system shall be accommodated with factory prefabricated internal expansion elbows, z-bends, expansion loops, and anchors specifically designed for each application. External expansion compensation can be provided with the use of flexible foam bolsters.

**Leak Detection:**
The system shall be made leak detection ready. This is accomplished by installing a bare copper wire between the carrier pipe and the HDPE jacket at the factory. The wire will be embedded in the foam insulation and incorporated into each piece of pre-insulated pipe and fittings. Contractor shall check continuity and electrical isolation of each piece of insulated pipe and fittings with a standard ohmmeter. Copper wires are to be connected together at each field joint with an insulated jumper cable as provided by Tricon.

**Installation:**
***No Piping shall be installed in standing water.*** **Trenches shall be maintained dry until final field closure is complete.**
The installing contractor shall handle the piping system in accordance with the directions furnished by the manufacturer and as approved by the architect and engineer. The carrier piping shall be hydrostatically tested to 1-1/2 times the operating pressure, or as specified in the contract documents. The test shall be maintained for a minimum time of 1 hour. ***EXERCISE DUE CARE WHEN INSTALLING AND TESTING THE PIPING SYSTEM.***

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**Backfill:**
A 4-inch layer of sand or fine gravel, less than ½" in diameter, shall be placed and tamped in the trench to provide uniform bedding for the **Steel 300** system. Once the system is in place, the trenches shall be carefully backfilled with similar material and hand tamped in 6" layers until a minimum of 12" above the top of the preinsulated pipe has been achieved. The remainder of the backfill shall be void of rocks, frozen earth and foreign material. The trench shall be compacted to comply with H-20 Highway loading.

**Accessories:**

Leak Detection Panel & Alarm.

**System Options:**

* Insulation thickness will vary depending on the type of insulation specified and the operating temperature. Contact your Tricon representative for available sizes and system options.

** Optional metallic casings for above grade applications include Spiral Lockseam in Galvanized, Aluminum or Stainless Steel.

** Optional non-metallic casings for below grade offered include, Filament Wound FRP.

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