TRICON DUCTILE IRON PIPE SYSTEM

For Applications Up To 225° F Below And Above Ground

☐ Chilled Water  ☐ Potable Water
☐ Heating Hot Water  ☐ Waste Water

PVC / HDPE / FRP or Metal Jacket As Specified

Polyurethane Foam Insulation

Ductile Iron Pipe As Specified
TABLE 1

<table>
<thead>
<tr>
<th>Pipe Size</th>
<th>Nominal Insulation Thickness</th>
<th>HDPE Jacket O.D.</th>
<th>HDPE Jacket Wall</th>
</tr>
</thead>
<tbody>
<tr>
<td>3&quot;</td>
<td>1.85&quot;</td>
<td>8.00&quot;</td>
<td>.175&quot;</td>
</tr>
<tr>
<td>4&quot;</td>
<td>2.43&quot;</td>
<td>10.00&quot;</td>
<td>.175&quot;</td>
</tr>
<tr>
<td>6&quot;</td>
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<td>12.43&quot;</td>
<td>.175&quot;</td>
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<tr>
<td>8&quot;</td>
<td>2.33&quot;</td>
<td>14.06&quot;</td>
<td>.175&quot;</td>
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<td>10&quot;</td>
<td>2.21&quot;</td>
<td>15.87&quot;</td>
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<td>12&quot;</td>
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<td>30&quot;</td>
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<td>36.00&quot;</td>
<td>.300&quot;</td>
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</tbody>
</table>

Service Pipe:
The service pipe shall be Ductile Iron manufactured in accordance with ANSI/AWWA C151/A21-51. Push-on joints and mechanical joints shall be in accordance with ANSI/AWWA C111/A21.11

Insulation:
The insulation shall be a foamed in place closed cell polyurethane 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.) 2.0          ASTM D-1621
*K* Factor BTU/Hr. sq. ft. °F/in. .147       ASTM C-177
90-95 % Closed Cell          ASTM D-2856

Exterior Casing: *
The exterior casing shall be
1. Seamless, extruded white PVC Type 1, Grade 1, Class 12454-B per ASTM D-1784 or
2. Seamless, High Density Polyethylene (H.D.P.E.) ASTM D-1248 with the following physical properties:
ASTM D-638.......Ultimate Elongation 850%
ASTM D-638.......Tensile Yield Strength 3300 psi
ASTM D-3350.......Resin Type III, Grade P34
ASTM D-790.......Tangent Flexural Modules 175,000 psi
No tape casings will be allowed.

Fittings:
All fittings shall be mechanical joint and restrained with a mechanical retainer gland or a concrete poured thrust block. Fittings shall be in accordance with AWWA C110 and AWWA C111.

Field Joints:
If required, all straight joints with an HDPE jacket shall be covered with a wrap of Polyken Tape and covered with a HDPE rockshield. PVC jackets shall be covered with a PVC sleeve and a wrap of Polyken Tape.

TABLE 2

<table>
<thead>
<tr>
<th>Pipe Size</th>
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<th>PVC Jacket O.D.</th>
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<tr>
<td>3&quot;</td>
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<td>.070&quot;</td>
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<td>.080&quot;</td>
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<td>14.32&quot;</td>
<td>.140&quot;</td>
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<tr>
<td>10&quot;</td>
<td>2.29&quot;</td>
<td>16.00&quot;</td>
<td>.140&quot;</td>
</tr>
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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 service 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.**

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 Ductile 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:
• Heat Tracing

System Options:
• Contact your Tricon representative for available sizes and system options.
* Optional metallic casings for above ground applications include, Spiral Lockseam in Galvanized, Aluminum or Stainless Steel.
* Optional non-metallic casings for both above and below grade offered include, Filament Wound FRP.
DUCTILE IRON SERVICE PIPE
POLYURETHANE FOAM INSULATION
HDPE/FRP/PVC CASING

DUCTILE IRON SERVICE PIPE
POLYURETHANE FOAM INSULATION
HDPE/FRP/PVC CASING
MASTIC END SEAL

18'-20' LENGTHS
PHASE 1

HDPE JACKET

DUCTILE IRON SERVICE PIPE

INSPECT THE GASKET AND REMOVE ANY DEBRIS FROM INSIDE OF PIPE. LUBRICATE PIPE ENDS AND GASKET. DO NOT LUBRICATE INSIDE OF THE BELL. DO NOT USE PETROLEUM BASED LUBRICANTS.

PHASE 2

1" +/-

HDPE JACKET

DUCTILE IRON SERVICE PIPE

INSPECT AND TEST JOINT AS REQUIRED.

PHASE 3

HDPE JACKET

6"

HDPE ROCKSHEILD

DUCTILE IRON SERVICE PIPE

ONCE JOINT IS PUT TOGETHER AND TESTED PER SPECIFICATIONS, WRAP HDPE ROCKSHEILD AROUND THE FIELD JOINT AND SECURE IN PLACE WITH BLACK POLYKEN TAPE. THIS WILL KEEP ANY DEBRIS OUT OF JOINT WHEN BACK FILLING.
PHASE 1

METAL JACKET

DUCTILE IRON SERVICE PIPE

INSPECT THE GASKET AND REMOVE ANY DEBRIS FROM INSIDE OF PIPE. BOLT MECHANICAL FIELD JOINT TOGETHER AND SECURE IN PLACE. TEST FIELD JOINT AS REQUIRED.

PHASE 2

METAL JACKET

DUCTILE IRON SERVICE PIPE

ONCE PIPE HAS BEEN JOINED, TEST JOINTS AS REQUIRED

PHASE 3

METAL JACKET

10"

14"

DUCTILE IRON SERVICE PIPE

AFTER TESTING OF JOINTS, CENTER INSULATED JOINT COVER IN PLACE AND DRY FIT. SOME TRIMMING MAY BE NECESSARY FOR A CLOSE FIT. PUT A BEAD OF SILICONE SEALANT AROUND CASING 1" FROM EACH END. PLACE 2-PC COVER OVER JOINT AND TIGHTEN BOLTS.
PHASE 1

GALVANIZED JACKET

DUCTILE IRON SERVICE PIPE

REMOVE ALL FOREIGN MATTER IN SOCKET. THE GASKET SEAT SHOULD BE THOROUGHLY INSPECTED TO BE CERTAIN IT IS CLEAN. FOREIGN MATTER IN THE GASKET SEAT MAY CAUSE A LEAK. LUBRICATE PIPE ENDS AND GASKET. DO NOT LUBRICATE THE INSIDE OF THE BELL. DO NOT USE PETROLEUM BASED LUBRICANTS.

PHASE 2

GALVANIZED JACKET

GALVANIZED WRAP AROUND DRAW BAND COVER

INSULATION

DUCTILE IRON SERVICE PIPE

APPLY PRECUT INSULATION IN PLACE OVER JOINT. SOME TRIMMING MAY BE NECESSARY FOR A CLOSE FIT. PUT A BEAD OF SILICONE SEALANT AROUND CASING 2" FROM END CASING. PLACE WRAP AROUND DRAW BAND OVER JOINT AND TIGHTEN BOLTS.