

Specifications for **INSUL-TEK[®] Ductile Iron**

A preinsulated piping system for above and below ground use on systems with temperatures up to 225°F.

MATERIALS:

All pipe shall be factory preinsulated INSUL-TEK[®] Ductile Iron as manufactured by Preinsulated Piping Systems, Inc.

CARRIER PIPE:

Pipe shall be ductile iron manufactured in accordance with the requirements of ANSI/AWWA C151/A21-51. Push-on joints and mechanical joints for such pipe shall be in accordance with ANSI/AWWA C111/A21.11 and shall be based on laying conditions and internal pressure as specified in the project plans.

INSULATION:

Foamed in-place closed cell polyurethane foam completely filling the annulus between the carrier pipe and jacketing.

Typical Mechanical Properties

Core Density

2.1 P.C.F. ASTM D-1622

Closed Cell Content

90 to 95% ASTM D-2856

"K" Factor, BTU/hr. in/ft² /°F @ 73° F

.14 ASTM C-518

OUTER CASINGS:

PVC:

Extruded White Polyvinyl Chloride (PVC)
Type 1, Grade 1, Class 12454-B per ASTM D 1784

HDPE:

Black High Density Polyethylene
Resin Type III, Grade P34,
under ASTM D-1248
Tensile Yield Strength
3300 psi ASTM D-638
Ultimate Elongation
850% ASTM D-638
Tangent Flexural Modulus
175,000 psi ASTM D-790

Spiral Lockseam:

Galvanized Steel, Aluminum, Stainless Steel
with standard outer lockseam.

* For optional casings, consult the Casing Selection Guide.



JOINING METHOD:

Pipe and fittings will be joined by push joint or mechanical joint.

FITTINGS:

All fittings shall be ductile iron and in accordance with the requirements of either ANSI/AWWA C153/A21.53 or ANSI/AWWA C110/A21.10. Mechanical joints shall conform to ANSI/AWWA C111/A21.11. Fittings shall have cement mortar lining and seal coating where applicable, in accordance with ANSI/AWWA C104/A21.4. Fittings below grade will be uninsulated and poured in concrete thrust blocks.

FIELD JOINTS:

All exposed ends of buried piping shall be fitted with a heat shrinkable end seal as manufactured by Raychem or equal. All ends of piping insulation will be sealed with a factory applied moisture barrier. Field joints will be insulated utilizing poured in-place polyurethane foam and will be sealed and jacketed with the same materials as used on the straight lengths of pipe.

BACKFILLING:

The trenches shall be carefully backfilled and hand tamped in 6" layers until a cover of at least 24" from the top of the pipe has been achieved. The first 12" of backfill shall be sand or fine gravel less than 1/2" in diameter. The remainder of the backfill shall be free of rocks, frozen earth and foreign material over 6" in diameter. The trench shall be compacted to comply with H-20 highway loading.

