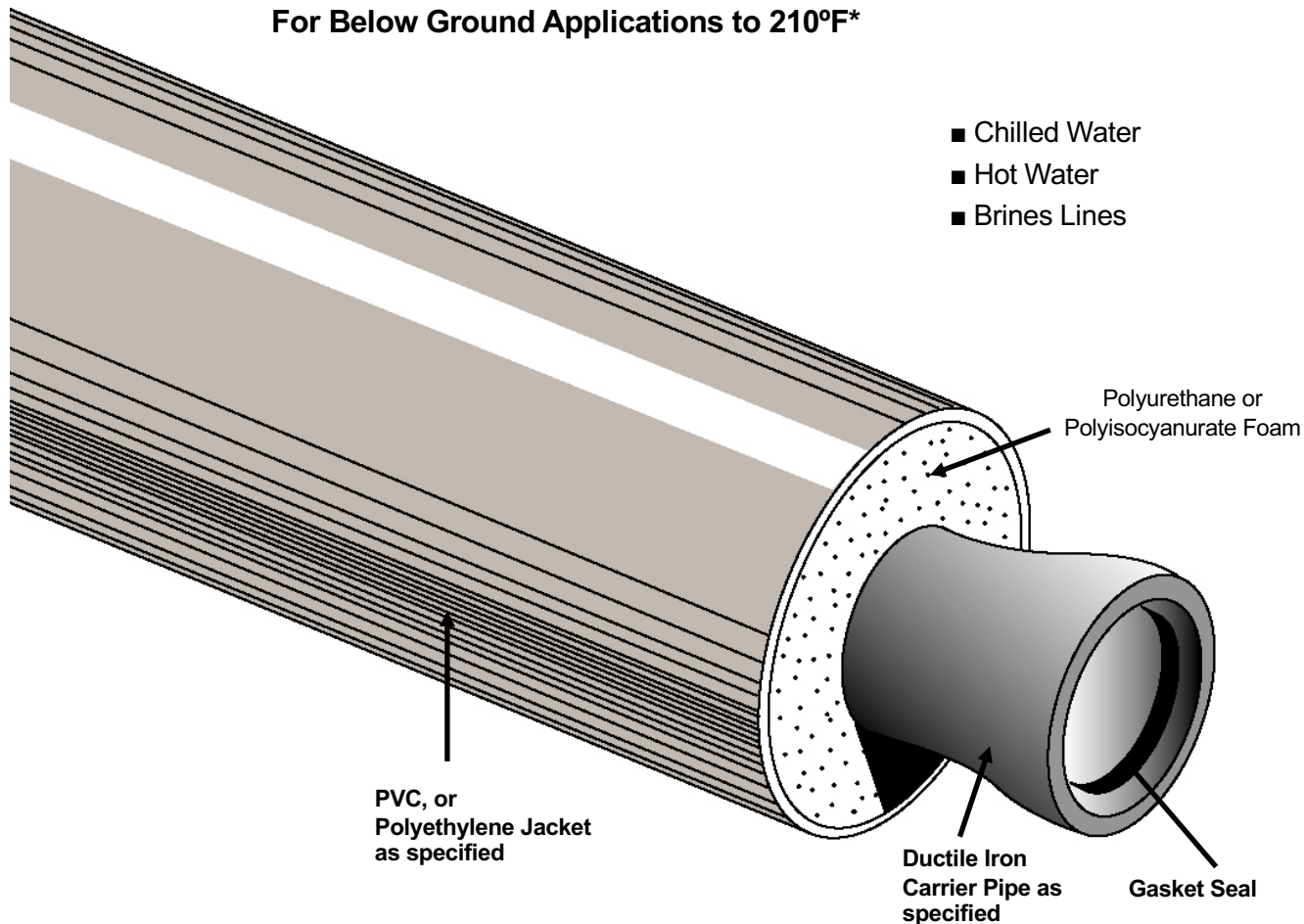


Rovanco Ductile Iron System

For Below Ground Applications to 210°F*



Rovanco's Ductile Iron System is designed for underground applications of chilled water or hot water. Carrier pipe insulation is either a polyurethane or polyisocyanurate high quality foam, combined with a durable plastic jacket supplied in 20' random lengths, means an economical, high-quality system.

Rovanco's Ductile Iron System is provided with PVC jacketing through 16" diameter. Larger jacketing is seamless polyethylene. Fittings are gasketed and thrust blocked in the field by the installer

The Ductile Iron comes complete with bell and spigot gasketed joints for fast insulation. Straight in-line joints are insulated in the field if required by specification.

To find out more about Rovanco's Ductile Iron System, you can visit our factory, phone us (815) 741-6700, fax us (815) 741-4229, visit our website at www.rovanco.com or e-mail us at marketing@rovanco.com.

*For higher temperatures, consult factory.

This is a generic product datasheet and is not intended for submittal use.

DUCTILE IRON SPECIFICATION DATA SHEET

Pre-insulated Ductile Iron with Insulated Joints: Chilled Water, Hot Water to 210°F, Brine Lines, Etc.

Carrier Pipe:

Ductile Iron Class 50 in nominal 20' lengths per AWWA C 151 and Federal Specification WW-P-421-D, with gasketed joints. Gaskets for service under 150°F shall be made of Styrene Butadiene Rubber. For services from 150°F to 200°F, Neoprene Gaskets are used. From 210°F to 250°F, E.P.D.M. gaskets are required. No cement liner shall be used in systems operating at above 140°F.

Pipe Fittings:

Fittings shall be mechanical joint and poured in a thrust block. All pipe fittings shall be furnished by the pre-insulated pipe manufacturer. Fittings shall be AWWA C110 or AWWA C111.

Polyurethane Insulation:

Insulation shall be a polyurethane foam injected with one shot into the annular space between carrier pipe and jacket. Insulation shall be rigid, minimum 90% closed cell polyurethane with a minimum 2.0 lbs per foot³ density, compressive strength of 30 psi @ 75°F and a thermal conductivity K factor no higher than 0.180 @ 75°F per ASTM C-518. Maximum operating temperature of urethane foam shall not exceed 250°F.

Polyisocyanurate Insulation:

Insulation shall be a polyisocyanurate foam injected with one shot into the annular space between carrier pipe and jacket. Insulation shall be rigid, >90% closed cell polyisocyanurate with a minimum 2.0 lbs per foot³ density, compressive strength of 30 psi @ 75°F, a thermal conductivity K factor no higher than 0.121 @ 75°F per ASTM C-518 and an E84 25/50 passive fire resistance rating. Maximum continuous operating temperature of polyisocyanurate foam shall not exceed 300°F. Also available in a 400°F polyisocyanurate foam.

Jacketing Material:

Polyethylene or PVC Jacket of 80 mil minimum thickness. Fiberglass jacketing will not be allowed.

Table 1:

Nominal Pipe Size In Inches	Actual Insulation Thickness In Inches	Nominal Jacket Size In Inches
4	1.60	8
6	1.55	10
8	1.48	12
10	1.45	14
12	1.40	16
14	1.35	18
16	1.30	20
18	2.00	24
20	2.00	26
24	2.00	30
30	2.00	36
36	2.00	42

Note: Jackets larger than 16" are polyethylene.

Joining Method:

Pipe joints shall be push-on type.

End Seal:

Each length of pre-insulated pipe will be fitted with a watertight mastic end seal at jacket and pipe surfaces. All field cuts will be sealed with a field applied end seal. For non-insulated joints, the end seals shall have a letter of certification from an independent Testing laboratory that they have been tested and proved watertight under the following test criteria;

Casing and End Seal Testing Certification: Test and certification procedures shall demonstrate that casing, factory and field applied end seal are capable of resisting penetration of water into the casing and insulation at 20 feet of head pressure, measured above the highest point of the test sample. Subjected over the entire surface of an 8 foot casing test sample for not less than 48 hours.

Insulation of Joints: (if required)

All straight joints shall be insulated using flexible foam and covered with the same material as pipe jacketing/ 90° and 45° elbows, tees, etc. will not be insulated; they must be poured in concrete thrust blocks.

Backfill:

Should be tamped compactly in place so as to assure a stable surface. No rock should be used in the first foot of backfill. 24 inches, top of pipe to grade, of compacted fill shall meet H-20 Highway Loading.

Approved Vendors:

Ductile Iron Pipe Systems by Rovanco, Joliet, Illinois or approved, ISO certified, equal. Any alternate supplier must submit their technical data to the engineer ten days prior to bid date to be approved in writing as an equal.

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Contact Rovanco® for the name of your local Representative

20535 S.E. Frontage Road • Joliet, Illinois 60431 • (815) 741-6700

Website: www.rovanco.com • E-mail: marketing@rovanco.com

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