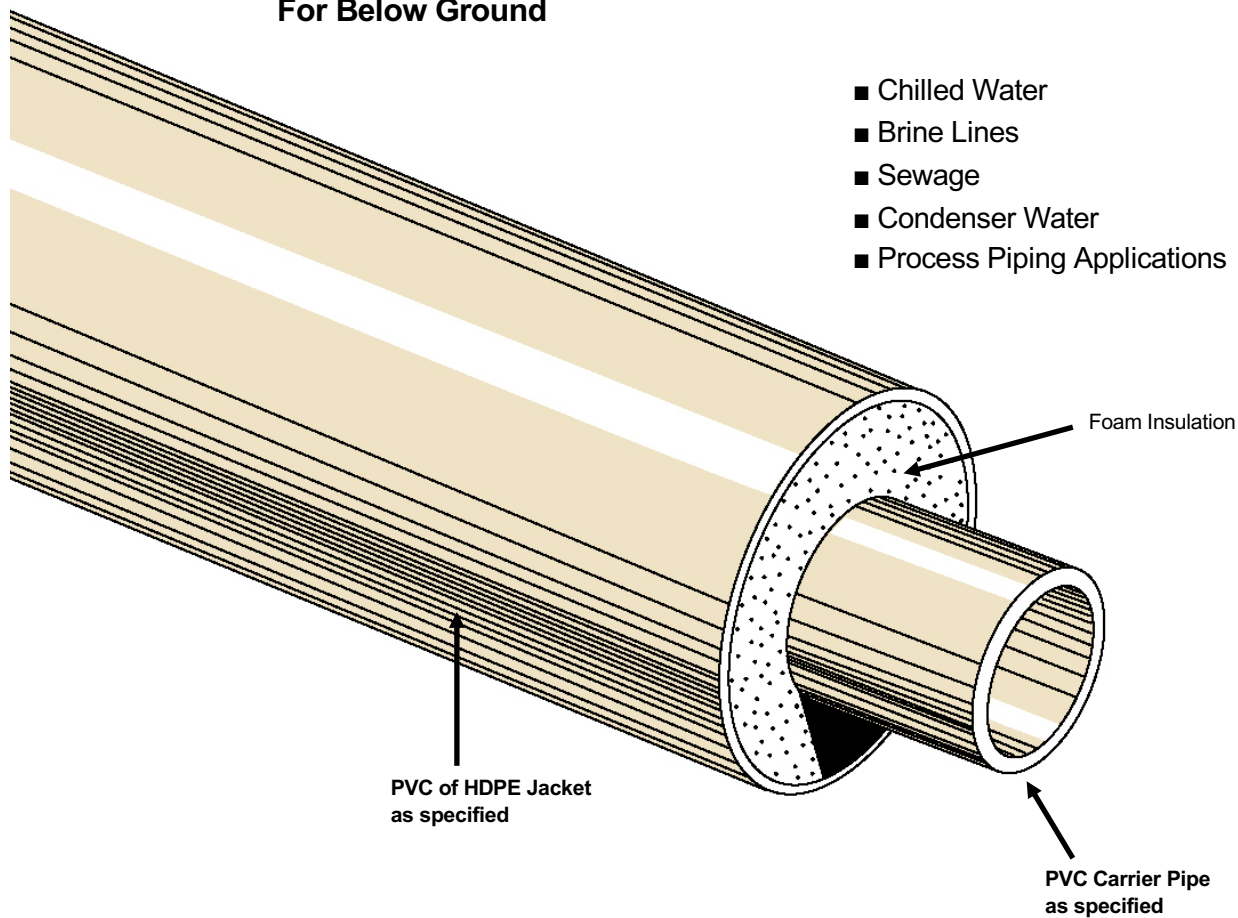


Rovanco PVC Pipe System

For Below Ground



PVC Piping System for Underground Chilled Water, Brine, Sewage, Condenser Water, and Process Piping Applications

Rovanco's PVC System is designed for piping systems for below ground suitable for chilled water applications. Carrier pipe insulation is a high quality foam, combined with a durable PVC or HDPE jacket supplied in 20' or 40' random lengths, means an economical, high-quality system.

Rovanco's PVC System is provided with each end sealed for moisture protection and the joints are gasketed or solvent weld for easy installation.

PVC System comes complete with solvent weld or gasketed couplings and fittings as required for installation.

After testing, all changes in direction are thrust blocked with concrete to direct the expansion and contraction of the pipe into the gasketed joints.

To find out more about Rovanco's PVC System, call (815) 741-6700, visit our factory, check out our website at www.rovanco.com or e-mail us at marketing@rovanco.com.

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

SPECIFICATION DATA SHEET

Gasketed PVC Piping System for Underground Chilled Water, Brine, Sewage, Condenser Water, and Process Piping Applications

Carrier Pipe:

Polyvinylchloride (PVC) SDR 26 Class 160 conforming to ASTM D2241 or Schedule 40/80 solvent weld in nominal 20-foot lengths. Other classes and schedule of PVC pipe are available. Consult factory for details.

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, an initial thermal conductivity K factor no higher than 0.14 @ 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:

High impact, seamless Polyvinylchloride (PVC) Class 12454-B compound conforming to ASTM 1784, Type 1, Grade 1, through 16" diameter. Jacket can also be high density polyethylene (HDPE) conforming to ASTM D3350, Type III, Category 5, Class C and Grade P23/P34. With a minimum of 2% by weight of carbon black. Minimum thickness is 175 mils. No FRP overwrap or sprayed jacketing will be allowed. Minimum jacket thickness shall be in accordance with Table 1.

Table 1:

Nominal Pipe Size In Inches	Min. Foam Thickness in Inches for PVC/HDPE	Jacket Size In Inches	PVC Jacket Thickness In Mils	HDPE Jacket Thickness In Mils
1 ½	1.05/2.15	4	60	200
2	1.81/1.91	6	70	200
2 ½	1.56/1.66	6	70	200
3	1.25/1.35	6	70	200
4	1.75/1.57	8	80	175
6	1.68/1.51	10	100	175
8	1.68/1.72	12	120	175
10	1.64/1.48	14	140	175
12	1.45/1.38	16	168	175

*Larger sizes are also available upon request.

Joining Method:

Bell by Spigot pipe is joined with rubber ring gasket seals, conforming to ASTM D-1869, on each 20 foot length to allow for expansion and contraction. Coupling joints to be un-insulated.

Solvent weld type is also available.

Fittings:

PVC made of the same type and grade materials as the piping to which they are attached and rated at the same pressure and temperature as the pipe, fitting with rubber ring gaskets. All fittings to be un-insulated to permit proper thrust-blocking. (*Fittings for 10" and 12" pipe will be gasketed epoxy lock (coated Steel).

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 procedure 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.

Anchors:

PVC pipe should be joined to steel systems with flanges or gasketed double bell couplings. All steel systems should be anchored within five feet of connection point to eliminate any thrust, stress, or torque from the steel pipe being transferred to the PVC.

Thrust Blocks:

All underground changes of direction, i.e. 90° els, 45° els, tees, etc. will be uninsulated. They will be poured in concrete thrust blocks to form anchor points and direct the expansion and contraction to take place at the gasketed joints.

Backfill:

Should be tamped compactly in place so as to assure a stable surface. No rock shall 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:

PVC Pipe Systems with certified and tested end seal 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

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