Pipe A-34

Factory Pre-Insulated Piping Systems

800-EJP-24 HR

Thermal Pipe Systems, Inc.

Thermal Pipe Systems, Inc. is America's leader in the production of quality pre-insulated piping systems. The Thermopipe Line products have been the performance leaders for 25 years.

Kool–Kore®

For Underground Distribution of Chilled Potable Water and Wastewater.

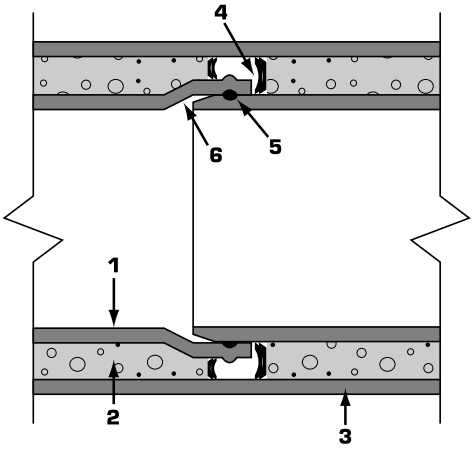
Kool-Kore is a factory pre-insulated low cost polyvinyl chloride piping system for underground chilled water distribution. It may be used for water only in temperatures to 70° F and pressures to 150 psi, or up to 120° F, if pressures are reduced to 60 psi.

The carrier pipe is lightweight, corrosion resistant Class 160 PVC with a grooved bell end containing a flexible rubber ring. The insulation is thermally efficient polyurethane foam with a "K" factor of 0.14 @ 70° F. The casing is heavy wall PVC. Heavy duty compression end seals keep the insulation dry.

Joining Kool-Kore is easy. Lubricate the spigot end and push it home into the bell. The joint provides for expansion and contraction without the need for any additional loops or devices. In the field the system is easily adaptable to other materials with commonly available tools. Standard solvent weld or rubber ring fittings make changes in direction simple.

This product combines corrosion resistant features of PVC and its ability to maintain its high flow characteristics with the thermal efficiency of polyurethane insulation to make this an excellent choice for chilled water systems.

Pre-Insulated Kool-Kore® Pipe Available in Sizes 1½" – 24"



1) Carrier: PVC Pipe
2) Insulation: Polyurethane Foam
3) Casing: PVC Pipe
4) End Seal: Rubber
5) Sealing Ring: Rubber
6) Bell: Grooved PVC

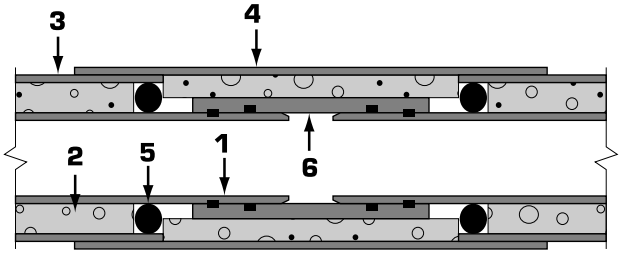
Kool-Kore Specifications:

- All underground insulated pipe 1½" to 24" shall be Thermal Pipe Systems Kool-Kore pressure pipe with Ring-Tite joints.
- Core pipe shall be suitable for use at maximum hydrostatic working pressures of 160 psi at 73° F. All core pipe must meet requirements as set forth in ASTM D-2241 with standard dimension ratio SDR 26 and bearing NSF seal for potable water pipe.
- Joints shall automatically provide for expansion and contraction through the rubber sealing ring placed in the groove in the end of the integral bell. Pipe and fittings must be assembled with a non-toxic lubricant.
- Casing pipe shall be PVC meeting the minimum classification requirements of ASTM D-1784. The thickness shall be in accordance with Thermal Piping Systems' published data (available from EJP).
- The insulation shall be polyurethane closed cell foam completely encapsulated on each end by a heat resistant compressed rubber end seal.
- Fittings may be solvent weld or slip-on joint and may be made of either PVC or Ductile Iron.

Lock-Tite

Lock-Tite is similar in construction to the Kool-Kore system except that the PVC carrier pipe uses Certa-Lok™ Yelomine™ restrained joint pipe (see page A-35 thru A-37). Lock-Tite may be used for all water line bridge crossings, above ground and shallow burial applications. The joint may be specified for permanent or non-permanent use. The joint is not designed to take any deflection or pipe movement due to thermal expansion or contraction. The system should be designed as a continuous rigid line with expansion and contraction allowances to be made up with mechanical-type expansion joints.

Pre-Insulated Lock-Tite Pipe Available in Sizes 2" – 12"



1) Carrier: Certa-Lok Yelomine
2) Insulation: Polyurethane Foam
3) Casing: PVC Pipe
4) Split Sleeve: PVC Pipe
5) End Seal: Rubber
6) Coupling: Certa-Lok

Pipeline Specialists TEAM EJP Everett J. Prescott, Inc.

Pipe A-35

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Lock-Tite Specifications:

- Carrier pipe shall be Polyvinyl Chloride (PVC) SDR 26 or 21 Restrained Joint Pressure Pipe meeting ASTM D-2241. Carrier Pipe shall be Certa-Lok™ Yelomine™ as manufactured by the CertainTeed Corporation. Pipe compound shall be in accordance with ASTM D-1784 using only Type 1, Grade 1, 2000 psi hydrostatic design stress material.
- The Polyvinyl Chloride (PVC) casing pipe shall be of virgin PVC resin meeting the minimum classification requirements of ASTM D-1784. The thickness of the casing pipe shall be as specified by the design engineer.
- The Lock-Tite coupling shall meet the requirements of ASTM D-3139.
- Sealing rings for the PVC carrier pipe shall be rubber "O" rings meeting ASTM F-477. The ring for non-permanent use shall be Teflon coated.
- End seals for insulated Lock-Tite shall be rubber with a compression type seal.
- Polyurethane foam insulation shall meet the following specifications:

Type:	Two component urethane
Compressive strength:	25 psi parallel min. @ 5% compression
Shrinkage:	None at 70°F
Free Rise Density:	2.0 to 3.0 lbs/cf
Aged "K" (70°F-72 hrs):	0.140 BTU per inch per hour per degree Fahrenheit, per square foot
Closed Cell Content:	90%

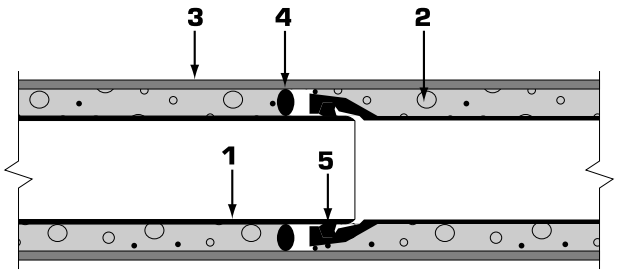
Duc-Tite®

Duc-Tite is a high quality, energy efficient piping system that is easy to install. It is used for hot water service to 200°F at pressures to 150 psi. It may also be used at higher pressures for chilled water.

The carrier pipe is Class 51 (3" & 4") or Class 50 Ductile Iron pipe with a push-on type joint. The insulation is thermally efficient polyurethane foam with a "K" factor of 0.14 @ 70°F. The casing is heavy wall PVC. Heavy duty compression end seals keep the insulation dry. Joining Duc-Tite is easy. Lubricate the spigot end and push it home into the bell. The joint provides for expansion and contraction without the need for any additional loops or devices. In the field the system is easily adaptable to other materials with commonly available tools. Rubber ring "push-on" type fittings make changes in direction simple.

The product provides the high strength of Ductile Iron with the thermal efficiency of polyurethane foam to create an excellent choice for underground distribution systems.

Pre-Insulated Duc-Tite® Pipe Available in Sizes 3" – 30"



1) Carrier: Ductile Iron
2) Insulation: Polyurethane Foam
3) Casing: PVC Pipe
4) End Seal: Compression Rubber
5) Sealing Ring: Rubber

Duc-Tite Specifications:

- All underground insulated pipe 3"-30" shall be Thermal Pipe Systems Duc-Tite pressure pipe with "push-on" joints.
- Core pipe shall be Ductile Iron Pipe conforming to ANSI A 21.51 and AWWA C-151. Pipe shall be Class 51 in sizes 3" and 4" and Class 50 in sizes 6"-30". Rubber sealing rings shall be provided with the pipe and shall be as specified under AWWA C-104.
- Joints shall automatically provide for expansion and contraction through the rubber sealing ring placed in the groove of the bell. Pipe and fittings must be assembled with a non-toxic lubricant.
- Casing pipe shall be PVC meeting the minimum classification requirements of ASTM D-1784. The thickness shall be in accordance with Thermal Piping Systems published data (available from EJP).
- The insulation shall be a polyurethane closed cell foam completely encapsulated on each end by a heat resistant compressed rubber end seal.
- Fittings shall be "push-on" Cast or Ductile Iron.

NOTE: For additional information on the above listed pipes and the many other Thermal Pipe Systems pre-insulated pipes that are available please contact your local EJP sales office.