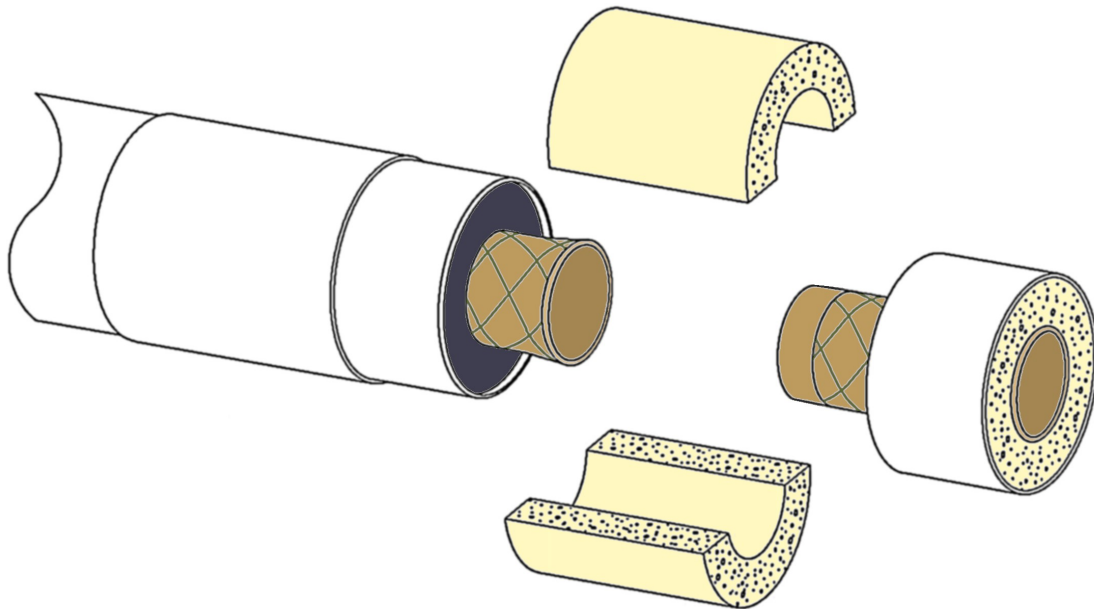


Thermal Pipe Systems, Inc.

TAPER-TITE® 230

A Proven Tapered and Bonded FRP System
Featuring High Flow, Corrosion Free Service
For
Condensate and Low Temperature Hot Water



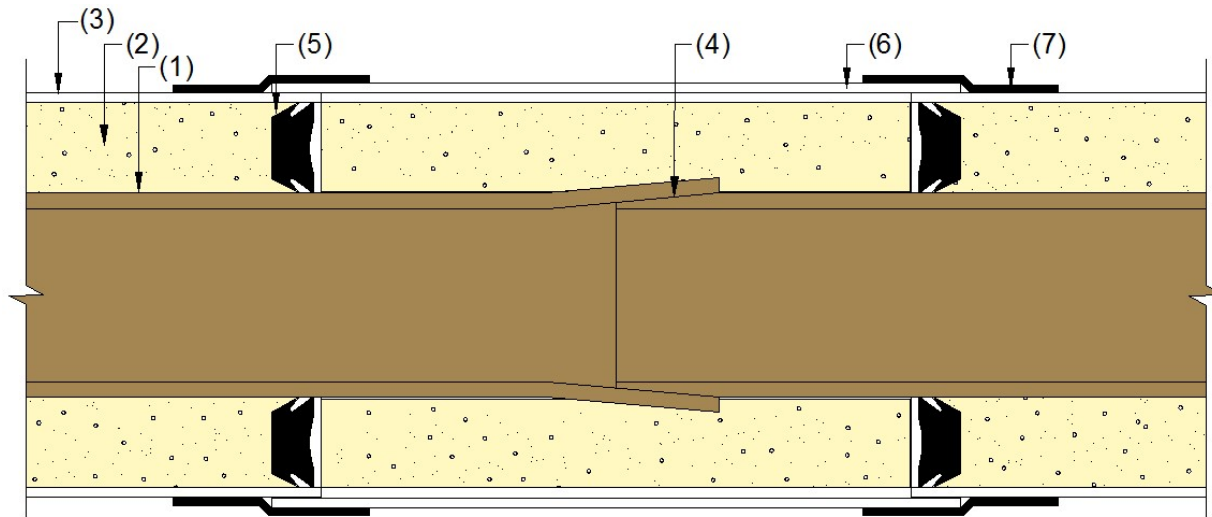
Taper-Tite is a lightweight, easy to install, energy efficient piping system for use in low temperature hot water and condensate return service. This system may be used for water only in temperatures to 230°F at pressures to 150psi.

The carrier pipe is filament wound epoxy pipe with a resin rich liner. The system is produced with matching tapers on bell and spigot ends. Insulation is thermally efficient polyurethane foam with a 'K' factor of 0.16 at 70°F. The heavy wall PVC or HDPE casing and heat resistant end seals keep the insulation dry. A complete line of fittings is available for this system.

To join Taper-Tite apply the adhesive and push the matched tapered bell and spigot ends together, heat curing may be required. Thermal expansion and contraction are taken up by the pipe itself. The piping system is non-corrosive and maintains very high flow characteristics. It is an excellent choice for underground condensate return lines, district heating systems, dual temperature lines, and geothermal heating systems. The piping system is approved for use by Federal Agencies for condensate, hot and chilled water.

The Thermal Pipe systems Casing-Tite Sleeve provides an easy and efficient means of insulating the joints.

TAPER-TITE® 230



- (1) CARRIER: FRP Pipe.
- (2) INSULATION: Polyurethane Foam
- (3) CASING: PVC or HDPE
- (4) ADHESIVE BOND
- (5) END SEAL: EPDM
- (6) CASING-TITE SLEEVE: PVC or HDPE
- (7) CASING-TITE SEAL: 30 mil High Temperature Tape

NOMINAL PIPE SIZE (IN.)	NOMINAL CASING SIZE (IN.)	CARRIER O.D. (IN.)	CASING O.D. (IN.)	THICKNESS		WEIGHT (LBS./ 20 FT.)
				FOAM (IN.)	PVC CASING (IN.)	
2	4	2.38	4.50	0.92	0.140	40
3	6	3.50	6.14	1.20	0.120	55
4	8	4.50	8.16	1.67	0.160	89
6	10	6.63	10.20	1.59	0.200	146
8	12	8.63	12.24	1.57	0.240	205
10	14	10.75	14.28	1.49	0.280	288
12	16	12.75	16.00	1.38	0.250	326

NOTE: Standard lengths are 20'-0". Weights are approximate. Consult manufacturer for HDPE dimensional data.

SHORT FORM SPECIFICATIONS

1.1 All underground pre-insulated pipe 2" – 12" shall be Thermal Pipe Systems, Inc. Taper-Tite® piping with adhesive bonded joints.

1.2 FRP carrier pipe shall be Fiberglass Reinforced Plastic (FRP) with resin-rich liner and shall comply with ASTM D2310 and D2996. Resin Designation Codes shall be RTRP-11FX1: 3110 for all sizes. The pipe shall be suitable for use at maximum hydrostatic working pressure of 150 psi at 230°F.

1.3 The pipe shall be joined with adhesive using matching tapered bell and spigot ends. This matching taper is designed

to mechanically 'lock' the pipe when assembled properly, using the instructions supplied by Thermal Pipe Systems.

1.4 Casing pipe shall be [Polyvinyl Chloride (PVC) meeting the minimum classification requirements of ASTM D-1784] or [High Density Polyethylene (HDPE)]. The thickness shall be in accordance with the Thermal Pipe Systems published data.

1.5 The insulation shall be polyurethane foam completely encapsulated on each end by a compression rubber end seal. Pipe joints shall be insulated using polyurethane foam half shells and protected with a Casing-Tite Sleeve.

1.6 The rubber end seals shall be an

Ethylene Propylene Diene Monomer (EPDM) heat resistant compound.

1.7 Fittings shall be uninsulated FRP designed to be used with the carrier pipe. Fittings shall have a bell to match the tapered spigot end of the pipe. The fittings shall be joined with adhesive supplied by Thermal Pipe Systems.

1.8 After completion of hydrostatic testing, joints shall be closed using factory supplied 30 mil high temperature tape. It shall be applied circumferentially around the seam between the coupling and pipe casing.

WARRANTY

We warrant that our products are manufactured with the applicable material specifications and are free from defects in the workmanship and material using our specifications as a standard. Every claim under this warranty shall be deemed waived unless in writing received by Thermal Pipe Systems, Inc. within (30) days of the date the defect was discovered and within (1) year of the date of shipment of the product. Thermal Pipe Systems, Inc. MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, IN FACT OR IN LAW, INCLUDING WITHOUT LIMITATION THE WARRANTY OF MERCHANTABILITY OR THE WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, OTHER THAN THE LIMITED WARRANTY SET FORTH ABOVE.

LIMITATIONS AND LIABILITY

It is expressly understood and agreed that the limit of Thermal Pipe Systems, Inc. liability shall be the resupply of a like quantity of nondefective product and that Thermal Pipe Systems, Inc. shall have no such liability except where the damage or claim results solely from the breach of the Thermal Pipe Systems, Inc. warranty. IT IS ALSO AGREED THAT THERMAL PIPE SYSTEMS, INC. SHALL NOT BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, OR OTHER DAMAGES FOR ANY ALLEGED NEGLIGENCE, BREACH OF WARRANTY, STRICT LIABILITY OR ANY OTHER THEORY, OTHER THAN THE LIMITED LIABILITY SET FORTH.



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