

230620S02 DIRECT BURIED CHILLED WATER PIPING

1. GENERAL

1. Piping shall be new, full weight, and of sizes shown on the drawings.
2. Piping shall be installed at the locations shown on the construction drawings, properly graded and secured to insure noiseless circulation throughout the system. Supply and Return piping shall be properly erected to prevent the formation of air and water pockets. Any location that tends to trap air or hold water shall have air vents installed at the high points, and manual drain valves installed at the low points. .

2. DIRECT BURIED CHILLED WATER PIPING:

All underground Chilled water and supply piping shall be Restrained Joint Ductile Iron Pipe, suitable for 350 psig working pressure for sizes 4" thru 24", and for 250 psig pressure for 30" thru 54" pipe. Piping joints and fittings are to be restrained with ductile iron locking segments; inserted through slots in the bell face, to provide a positive axial lock between the bell interior surface and a retainer weldment on the spigot end of the pipe (US Pipe TR Flex restrained joint pipe or equal). The University of Kentucky requires that all fitting bends be blocked with reinforced concrete thrust blocks, installed in a manner that all locking segments are accessible. Pipe and fittings are to have bituminous outside coating and inside coating in accordance with ANSI/AWWA C151/A21.51 for pipe and ANSI/AWWA C110/A21.10 for fittings. Pipe and fittings are to be cement lined in accordance with ANSI/AWWA C104/A21.4. Restrained push-on joint pipe and fittings shall be capable of being deflected after assembly.

Backfill: A 4" layer of sand shall be placed and tamped in the trench to provide a uniform bedding for the piping system. After the piping is installed, the entire trench shall be evenly backfilled with sand in 6" compacted layers to a minimum height of 6" above the top of the insulated piping system. The remaining trench shall be evenly and continuously backfilled in uniform layers with suitable excavated soil to finished grade level.

3. DIRECT BURIED CHILLED WATER PIPING INSULATION:

The underground chilled water supply line is to be insulated with a 2" thick layer of Pittsburgh Corning Foamglas 100% rigid cellular glass, jacketed with Pittsburgh Corning Pittwrap CW jacketing or Pittwrap heat sealable jacketing. Fittings and all pipe joints are to be insulated with field cut Foamglass insulation, held in place with glass wrapped reinforced Pittcote 300, or rope stock tape, covered with the Pittwrap jacketing strips, and then covered with a glove coat of Pittcote 300, all according to manufacturer's recommendations. The Chilled water return line does not need to be insulated, except when it is within 3 feet of a steam line, or subject to ambient air conditions.

The successful bidder may use pre-insulated ductile iron piping in lieu of the Pittsburgh Corning Fiberglass insulation specified above. The pre-insulated piping preferred is Perma-Pipe Polytherm, FRP jacketed piping. No pre-insulated PVC or HDPE jacketed piping is allowed.