

SECTION 15070 - UNDERGROUND PIPE AND CONDUIT SYSTEM FOR SYSTEMS BELOW 250° F

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK:

- A. This section specifies piping materials and installation methods common to this section of Division 15 and includes joining materials, piping specialties, and basic piping installation instructions for all soil conditions.

1.2 REFERENCES:

- A. ANSI B31.1

1.3 SUBMITTALS:

- A. Refer to Division 1 and Basic Mechanical Requirements for administrative and procedural requirements for submittals.
- B. Product Data: Submit industry standards and manufacturer's technical product data, installation instructions, and dimensioned drawings for each type of pipe and pipe fitting. Submit piping schedule showing pipe or tube weight, fitting type, and joint type for each piping system.
- C. Welding Certifications: Submit reports as required for piping work.
- D. Brazing Certifications: Submit reports as required for piping work.

1.4 QUALITY ASSURANCE:

- A. System shall be factory tested and inspected in accordance with the manufacturer's requirements.

PART 2 - PRODUCTS

2.1 MANUFACTURERS:

- A. Piping Materials: Provide pipe and tube of type, pressure and temperature ratings, capacities, joint type, grade, size and weight (wall thickness or Class) indicated for each service. Comply with governing regulations and industry standards.
- B. Pipe/Tube Fittings: Provide factory-fabricated fittings of type, materials, grade, class and pressure rating indicated for each service and pipe size. Provide sizes and types matching pipe, tube, valve or equipment connection in each case. Comply with governing regulations and industry standards.
- C. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Perma-Pipe/Ricwil
 - 2. Thermal Pipe Systems
 - 3. Thermacor

2.2 UNDERGROUND CHILLED WATER SUPPLY AND RETURN PIPE:

- A. The underground piping shall be a pre-insulated polyurethane piping system composed of [Schedule 40 ASTM A-53 or A-106, grade B carbon steel pipe] [SDR-26 class 160 PVC

pipe], [Type L/K copper] [schedule 40 solvent weld PVC pipe] Carrier pipe, 2 inches of polyurethane insulation and a [high density polyethelene], [PVC] [Fiberglass] outer casing. Fittings shall be of compatible material and size.

PART 3 - EXECUTION

3.1 EXCAVATION AND BACKFILLING:

- A. Excavation and backfill shall be in accordance with Division 2 Division 15 and the pipe system manufacturer's recommendations.

3.2 UNLOADING, HANDLING, ASSEMBLY AND INSTALLATION:

- A. The unloading, handling, assembly and installation of the system shall be done in accordance with the instructions in the manufacturer's installation guide, and as further supplemented by instructions of the manufacturer's representative at the job site. Such representative shall be present during the job installation, testing, system turn-on, and as requested by the contractor or engineer.

3.3 TESTING:

- A. Testing work shall be done under the supervision of a manufacturer's representative.
- B. Piping shall be hydrostatically tested in the field under pressure of 150 psig.
- C. Joints in the outer casing shall be tested to show ground water will not leak into the piping system.

END OF SECTION 15070