

SECTION 232113.20 - AIR-CONDITIONING CONDENSATE PIPING

PART 1 - GENERAL

1.1 SUBMITTAL REQUIREMENTS

- A. Product Data
- B. Shop Drawings
 - 1. Detail, at 1/4 scale, the piping layout, fabrication of pipe anchors, hangers, supports for multiple pipes, alignment guides, expansion joints and loops, and attachments of the same to the building structure. Detail location of anchors, alignment guides, and expansion joints and loops.

PART 2 - PRODUCTS

2.1 COPPER TUBE AND FITTINGS

- A. DWV Copper Tubing: ASTM B 306, Type DWV.
- B. Copper Fittings and unions: ASME B16.22.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Nibco
 - b. Mueller
 - c. Elkhart Products

2.2 JOINING MATERIALS

- A. Solder Filler Metals: ASTM B 32, lead-free alloys. Include water-flushable flux according to ASTM B 813.

2.3 DIELECTRIC FITTINGS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Nibco
 - 2. Mueller
 - 3. Elkhart Products
 - 4. Watts Regulator Company
- B. Dielectric Unions and Flanges:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Nibco
 - b. Mueller
 - c. Elkhart Products
 - d. Watts Regulator Company

 2. Description:
 - a. Standard: ASSE 1079.
 - b. Pressure Rating: 125 psig minimum at 180 deg F.
 - c. Union End Connections: Solder-joint copper alloy and threaded ferrous.
 - d. Factory-fabricated, bolted, companion-flange assembly.
 - e. Flange End Connections: Solder-joint copper alloy and threaded ferrous; threaded solder-joint copper alloy and threaded ferrous.
- C. Dielectric Flange Insulating Kits:
1. Description:
 - a. Non-conducting materials for field assembly of companion flanges.
 - b. Pressure Rating: 150 psig.
 - c. Gasket: Neoprene or phenolic.
 - d. Bolt Sleeves: Phenolic or polyethylene.
 - e. Washers: Phenolic with steel backing washers.
- D. Dielectric Nipples:
1. Description:
 - a. Standard: IAPMO PS 66
 - b. Electroplated steel nipple. complying with ASTM F 1545.
 - c. Pressure Rating: 300 psig at 225 deg F.
 - d. End Connections: Male threaded.
 - e. Lining: Inert and noncorrosive, propylene.

PART 3 - EXECUTION

3.1 PIPING INSTALLATIONS

- A. Condensate is to discharge indirectly into sanitary system as shown on plans. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Indicate piping locations and arrangements if such were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated unless deviations to layout are approved on Coordination Drawings.

- B. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.
- C. Select system components with pressure rating equal to or greater than system operating pressure.
- D. Install piping at a uniform grade of 0.2 percent downward in direction of flow.
- E. Reduce pipe sizes using eccentric reducer fitting installed with level side down.
- F. Install unions in piping, NPS 2 and smaller, adjacent to valves, at final connections of equipment, and elsewhere as indicated.
- G. Install flanges in piping, NPS 2-1/2 and larger, at final connections of equipment and elsewhere as indicated.
- H. Install escutcheons for piping penetrations of walls, ceilings, and floors.

END OF SECTION 232113.20