

22 11 00 FACILITY WATER DISTRIBUTION

Modify subsections .01, paragraph B. Water Piping, in Section 22 11 00 per the following (deletions are shown struck through and additions are double underlined). Remainder of section is unchanged.

.01 Plumbing Piping

B. Water Piping

1. General

- a. The installation of copper tubing for hot and cold water distribution systems shall conform to the requirements of the ICC International Plumbing Code.
- b. All fittings in contact with drinking water shall be listed by a third party agency to NSF 61.
- c. The installing contractor shall examine the copper tubing and fittings for defects, sand holes or cracks. There shall be no defects of the tubing or fittings. Any damaged tubing or fittings shall be rejected.
- d. Copper tubing shall be cut with a wheeled tubing cutter or approved copper tubing cutting tool. The tubing shall be cut square to permit proper joining with the fittings.
- e. Remove scale, slag, dirt and debris from inside and outside of tubing and fittings before assembly. The tubing end shall be wiped clean and dry. The burrs on the tubing shall be reamed with a deburring or reaming tool.
- f. Install piping free of sags, bends and kinks.
- g. Change in Direction: Install fittings for changes in direction and branch connections.
- h. Install piping to permit valve servicing.
- i. When installing piping adjacent to equipment and machines, allow space for service and maintenance.
- j. Install unions in copper tubing at final connection to each piece of equipment, machine, and specialty.

4.2. Copper Tubing

- a. Copper water tubing shall be ASTM B 88, Type L hard drawn.
- b. Joints shall be made with no lead solder or copper press-joint fittings~~the Viega-Pro-Press system.~~

3. ~~The use of cross-linked polyethylene (PEX) tubing is not allowed for domestic water piping.~~ Solder Joints:

- a. Solder Filler Metals: ASTM B 32, lead-free alloys.
- b. Flux: ASTM B 813, water flushable.
- c. Solder joints shall be made in accordance with ASTM B 828.
- d. The temperature of the joint during soldering shall not be raised above the maximum temperature limitation of the flux.

4. Copper Press-Joint Fittings:

- a. Press-Joint Fittings: Copper and copper alloy press fittings shall conform to material requirements of ASME B16.18 or ASME B16.22 and performance criteria of IAPMO PS 117. Sealing elements for press fittings shall be EPDM. Fittings shall be designed such that sealing elements

Formatted

Formatted: Font: (Default) Arial, 11 pt, Font color: Auto

Formatted: Font: (Default) Arial

Formatted: Font: Font color: Auto

Formatted: Font: (Default) Arial, 11 pt, Font color: Auto

Formatted: Font: (Default) Arial

Formatted: Font: (Default) Arial

Formatted

Formatted: Font: (Default) Arial, Not Highlight

Formatted: Font: (Default) Arial, Not Highlight

Formatted: Font: (Default) Arial, Not Highlight

- stays properly in its groove and does not roll out when inserting tube. Sealing elements shall be factory installed or an alternative supplied by fitting manufacturer. Press ends shall have a feature that assures leakage of liquids and/or gases from inside the system past the sealing element of an unpressed connection. The function of this feature is to provide the installer quick and easy identification of connections which have not been pressed prior to putting the system into operation.
- b. Press connections: Copper and copper alloy press connections shall be made in accordance with the manufacturer's installation instructions. The tubing shall be fully inserted into the fitting and the tubing marked at the shoulder of the fitting. The fitting alignment shall be checked against the mark on the tubing to assure the tubing is fully engaged (inserted) in the fitting. Copper press fittings shall be installed using the proper tool, actuator, jaws and rings as instructed and approved by the press fitting manufacturer.
- c. Installer shall be a qualified installer, licensed within the jurisdiction, and familiar with the installation of copper press joint systems.
- d. Follow all installation instructions of manufacturer of press-joint fitting to ensure quality, leak-tight seal. To prevent distortion of the pipe, be sure to stringently maintain the minimum distance between fittings depending on tubing diameter as directed by manufacturer. Failure to provide this distance may result in an improper seal, and installer shall be held liable for all associated costs of required repairs.
- e. The installing contractor shall insure that sealing elements are properly in place and free from damage. For Sizes 2-1/2" to 4", installer should insure that the stainless steel grip ring is in place.
- f. Provide unions and arrangement of sufficient length of removable sections of tubing at valves and equipment connections to allow for easy removal and reinstallation for repairs without having to redo press connections.
- e-5. The use of cross-linked polyethylene (PEX) tubing is not allowed for domestic water piping.
- d-6. The use of Copper Push-on-Joint Fittings is not allowed for domestic water piping.

Formatted: Font: (Default) Arial, 11 pt, Not Highlight

Formatted: Font: (Default) Arial, 11 pt, Font color: Auto

Formatted: Font: (Default) Arial, 11 pt, Not Highlight

Formatted: Font: (Default) Arial, 11 pt, Font color: Auto

Formatted: Font: Font color: Auto

Formatted: Font: (Default) Arial, 11 pt

Formatted: Font: (Default) Arial, 11 pt

Formatted: Font: (Default) Arial, 11 pt

Formatted: Font: (Default) Arial, 11 pt, Font color: Auto

Formatted

Formatted: Font: (Default) Arial, 11 pt

END of revision

#### Update Commentary:

Section was updated primarily for the following reasons:

- 1) To add more detailed general, materials, and installation requirements.
- 2) To remove proprietary references of pressed joint system.

3) To prohibit copper push-on joint fittings.

