PEX-AL-PEX (orange colored)	200 psi	125 psi
	at 73°	at 180°F
PE-AL-PE (blue colored)	200 psi	100 psi
	at 73°F	at 180°F

- **2.2.2 Fittings.** Fittings shall be marked with at least the following:
 - (a) Manufacturer's name or trademark or other acceptable markings; and
 - (b) The mark of an acceptable certification agenc; and
 - (c) If size permits, ASTM F1974. [UPC 301.1.2]
- **2.2.3 Position of Markings.** When practical, markings shall be visible for inspection. Markings shall be visible prior to installation.
- 2.3 Protection of Piping
- **2.3.1 Abrasion.** Piping passing through metallic studs, joists, or hollow masonry walls shall be protected from abrasion or sharp edges by elastomeric or plastic sleeves, grommets, conical shaped punch holes or other approved means.
- **2.3.2 Puncture.** Steel plate protection, minimum 18 gauge, shall be installed when the tubing is within 1 in. (25 mm) of the nailing surface. [UPC 313.9]
- 2.4 Exposed Piping
- **2.4.1 General** Where exposed tubing may be subjected to mechanical damage it must be protected.
- **2.4.2 Freezing.** In areas where the system must be drained to protect the system from freezing, horizontal lines shall be graded to drain.
- 2.4.3 Storage. Piping shall be stored in a way to protect the system from mechanical damage (slitting, puncturing, etc.). Piping should be stored undercover to keep it clean and avoid long term exposure to sunlight. Consult piping manufacturer for recommended limits for outside storage.
- 2.5 Thermal Expansion
- **2.5.1 General.** The linear expansion rate for PEX-AL-PEX and PE-AL-PE is 1.56 in. (39.6 mm) per 100 ft. (30 m) of tube per 100°F (55°C) change in temperature. No accommodation for thermal expansion is required.
- **2.5.2 Clearance.** Bored holes and sleeves shall provide adequate clearance between the

piping and structure to allow for free longitudinal movement.

- 2.6 Hangers and Supports
- **2.6.1 Vertical Piping.** Vertical piping shall be supported at every floor. Piping shall have a mid-story guide.
- **2.6.2 Horizontal Piping.** Horizontal piping shall be supported according to the following Table 1.

Table 1 Support Spacing

 Nominal Diameter
 Spacing

 1/2", 3/4", and 1"
 8' 2" (2489 mm)

2.6.3 Hangers and Anchors. Piping shall not be anchored rigidly to a support, but shall be secured with hangers or straps that provide for a degree of movement and that prevent damage to the tubing. Do not use hangers or straps with sharp or abrasive edges. Do not use hangers that pinch the piping. [UPC 314.0]

2.7 Inspection and Testing

A. Inspection. All tubing shall be properly seated on to the fitting per the manufacturer's instructions. For crimp fittings, each crimped joint shall be checked. Buckled, gouged, or obviously damaged pipe shall not be used. Consult manufacturer's recommendations for repair procedures.

B. Testing. Upon completion of a section or of the entire hot and cold water supply system it shall be tested and proved tight under a water pressure or air test not less than the working pressure under which it is to be used. The water used for tests shall be obtained from a potable source. The system shall withstand the test without leaking for a period of not less than fifteen (15) minutes.

2.8 Joints and Connections

- **2.8.1 Procedure.** Piping should be cut with a pipe cutter designed specifically for composite pipe. Piping shall be cut square, i.e. perpendicular to the length. No other cutting methods shall be used and care must be taken to remove any excess material, flashing, or burrs.
- **2.8.2 Tools.** Fitting manufacturer's recommended tool shall be used with the composite insert fitting systems. For