

**Installation Standard  
For  
COMPOSITE PEX-AL-PEX HOT AND PE-AL-PE COLD  
WATER-DISTRIBUTION SYSTEMS**

**IS 28-2005**

**1.0 SCOPE**

**1.1** This standard shall govern the installation of composite piping in potable hot and cold water distribution systems within and under buildings and shall apply only to PEX-AL-PEX and PE-AL-PE piping meeting the requirements of ASTM F1281 and ASTM F1282 and fittings meeting the requirements of ASTM F1974. Installation, materials, and inspection should comply with the current edition of the Uniform Plumbing Code published by the International Association of Plumbing and Mechanical Officials, and shall also comply with this standard and manufacturer's installation recommendations.

**NOTE:** *The following sections of the Uniform Plumbing Code shall apply to composite PEX-AL-PEX and PE-AL-PE tubing.*

310.0	Workmanship
313.0	Protection of Piping, Materials, and Structures
316.1	Types of Joints
316.2.3	Plastic Pipe to Other Materials
Chapter 6	Water Supply and Distribution
Chapter 2*	DEFINITIONS
ASTM	American Society for Testing and Materials
IAPMO	International Association of Plumbing and Mechanical Officials
PEX-AL-PEX	Crosslinked Polyethylene-Aluminum-Crosslinked Polyethylene
PE-AL-PE	Polyethylene Aluminum-Polyethylene
UPC	Uniform Plumbing Code as published by IAPMO

\* The first three numbers refer to the corresponding section of the UPC.

**2.0 PRODUCT REQUIREMENTS**

**2.1 Materials and Fittings**

**2.1.1 Materials.** Materials shall comply with the following requirements:

**Materials**

**ASTM  
Standard**

Crosslinked Polyethylene-Aluminum-Crosslinked Polyethylene (PEX-AL-PEX)	F 1281
Polyethylene-Aluminum-Polyethylene (PE-AL-PE)	F 1282
Metal Insert Fittings for PEX-AL-PEX and PE-AL-PE composite pipe	F 1974

**2.1.2 Piping.** PEX-AL-PEX composite pipe shall comply with ASTM F1281. PE-AL PE composite pipe shall comply with ASTM F1282.

**2.1.3 Fittings.** Fittings shall be metal insert type and shall comply with ASTM F1974. Fittings are limited to the following types:

- (a) Insert fittings or compression type fittings; and
- (b) Special listed fittings of other types. Connections to galvanized pipe or fittings shall be specifically designed for that purpose.

**NOTE 1:** *Manufacturers of fittings shall recommend assembly procedures.*

**2.2 Markings**

**2.2.1 Piping.** Composite piping shall be legibly marked at intervals of not more than 5 ft. (1.5 m) with at least the following:

- (a) Manufacturer's name or trademark;
- (b) ASTM F1281(PEX-AL-PEX) or ASTM F1282 (PE-AL-PE);
- (c) Piping size;
- (d) Material type – PEX-AL-PEX or PE-AL-PE;
- (e) Pressure ratings for water and the temperature for which the temperature rating is valid;
- (f) Mark of an acceptable certification agency; and
- (g) Manufacturer's date and material code. [UPC 301.1.2]

The elevated temperature and pressure ratings for PEX-AL-PEX and PE-AL-PE in accordance with ASTM F1281 and ASTM F1282 are: