

Internal Use Only

Installation Standard For PE-RT HOT AND COLD WATER DISTRIBUTION SYSTEMS

IS 29-2010

1.0 SCOPE

1.1 This Standard shall govern the installation of tubing in potable hot and cold water distribution systems within and under buildings and shall apply only to Polyethylene of Raised Temperature (PE-RT) tubing meeting the requirements of ASTM F 2769 and fittings meeting the requirements of ASTM F 2159, F 2735, F2769, F2098, F 1807 or ASSE 1061. Installation, materials, and inspection should comply with the current edition of the Uniform Plumbing Code (UPC) published by the International Association of Plumbing and Mechanical Officials (IAPMO), 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 PE-RT water distribution systems.*

- 310.0** Workmanship
- 313.0** Protection of Piping, Materials, and Structures
- 316.1** Types of Joints
- 316.2.3** Connections 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
PE-RT	Polyethylene of Raised Temperature
UPC	Uniform Plumbing Code as published by IAPMO

2.0 PRODUCT REQUIREMENTS

2.1 Materials and Fittings

2.1.1 Materials. Materials shall comply with the following requirements:

Materials	ASTM Standard
Polyethylene of Raised Temperature (PE-RT)	F 2769
Insert Fittings for PE-RT	F 2159, F 2735, F1807, F 2769, F 2098
Push-Fit Fittings	ASSE 1061

2.1.2 Tubing. PE-RT tubing shall comply with ASTM F 2769

2.1.3 Fittings. Fittings shall be metal or plastic insert type complying with ASTM F 2159, F2735, F2769, F 2098 or F 1807 or push-fit type complying with ASSE 1061. Fittings are limited to the following types:

- (a) Insert fittings or compression type

Internal Use Only

fittings, or push-fit type fittings,

- (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 Tubing. Tubing shall be legibly marked at intervals of not more than 5 ft. (1.5m) with at least the following:

- (a) Manufacturer's name or trademark;
- (b) ASTM F 2769
- (c) Nominal tubing size;
- (d) Material type – PE-RT;
- (e) Pressure ratings for water and the temperature for which the temperature rating is valid;
- (f) Mark of an acceptable certification agency;
- (g) Manufacturer's date and material code;
- (h) Standard dimension ratio, SDR 9;
- (i) Standard designation(s) of the fitting system(s) for which the tubing is recommended for use by the tubing manufacturer. [UPC 301.1.2]

The elevated temperature and pressure ratings for PE-RT in accordance with ASTM F 2769 are

PE-RT	160 psi at 73°F (1103 kPa at 23°C)	100 psi at 180°F (690 kPa at 82°C)
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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 agency.
- (c) If size permits, ASTM F 2769, F 2159, F 2735, F 1807, F 2098 or ASSE 1061 whichever is applicable. [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 Tubing

2.3.1 Abrasion. Tubing 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" (25 mm) of the nailing surface. [UPC 313.9]