

Internal Use Only

INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS

MATERIAL AND PROPERTY STANDARD

FOR

POLYETHYLENE DISTRIBUTION BOXES

PS 105-97

1. PURPOSE

- 1.1** The purpose of this standard is to establish an acceptable standard for polyethylene distribution boxes for sewage disposal systems. Its intent is to serve as a guide for manufacturers, distributors, architects, engineers, contractors, installers, inspectors and users; to promote understanding regarding materials, manufacturing and installation; and, to provide for the identification of polyethylene distribution boxes.
- 1.2** The provisions of this standard are not intended to prevent the use of any alternate material, or method of construction, provided that any such alternate meets or exceeds the intent of this standard.

2. SCOPE

- 2.1** Distribution boxes shall be a structurally sound box which will provide equal distribution in a septic system consistent with accepted practices. This standard covers general requirements along with methods of marking and identification.

3. GENERAL REQUIREMENTS

- 3.1** Drawings shall be provided for all boxes and shall be complete and shall show all necessary dimensions.
- 3.2** Distribution boxes shall be constructed of high density polyethylene which is not subject to corrosion and degradation in the presence of domestic sewage. The polyethylene used shall: (1) be Type II or III and Category 3 per ASTM Standard D 1248 (Specification for Polyethylene Plastics Molding and Extrusion Materials), Class B (requiring an ultraviolet stabilizer) or Class C (requiring a minimum of 2% carbon black); (2) have a stress crack resistance of at least 150 hours when measured in accordance with ASTM Standard D 1693 (Test Method for Environmental Stress-Cracking of Ethylene Plastics); (3) have a value of equal to or greater than twenty-four hundred (2400) psi (16548 kPa) when tested in accordance with ASTM D 638 (Test Method for Tensile Properties of Plastics); and (4) have a flexural modulus of elasticity equal to or greater than eighty-five thousand (85,000)

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psi (586075 kPa) when tested in accordance with ASTM D 790 (Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials)

- 3.3** Boxes may vary in dimensions of height, width and depth. In order to maintain structural strength, boxes shall have a minimum wall thickness of 0.200 ± 0.030 inches (5.1 ± 0.8 mm). The inlet shall be at least one inch (25.4 mm) higher than the outlets. Each box shall have a removable lid capable of withstanding loads of 500 psf (24 kPa).
- 3.4** Each box shall be provided with snap in or approved equal pipe seals made of linear low density polyethylene. Seal material shall have at least 800% elongation as tested by ASTM D 638 and flexural modulus of at least 40,000 psi (275,800 kPa) as tested in accordance with ASTM D 790.

4. IDENTIFICATION AND MARKINGS

- 4.1** Boxes shall be permanently marked with the following:
- (a) Manufacturer's name or trademark;
 - (b) Model number; and
 - (c) Any other required markings

Adopted: 1997