



Designation: D 2312 - 88

AMERICAN SOCIETY FOR TESTING AND MATERIALS

1916 Race St., Philadelphia, Pa. 19103

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## Standard Specification for Perforated, Homogeneous Bituminized Fiber Pipe for Septic Tank Disposal Fields<sup>1</sup>

This standard is issued under the fixed designation D 2312; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

### 1. Scope

1.1 This specification covers standard strength homogeneous perforated bituminized fiber pipe and fittings for use as exfiltration lines for septic tank effluent in absorption-disposal fields.

1.2 The values stated in SI units are to be regarded as the standard.

### 2. Referenced Document

#### 2.1 ASTM Standard:

D 2314 Methods of Testing Homogeneous Bituminized Fiber Pipe<sup>2</sup>

### 3. Materials and Manufacture

3.1 Pipe and couplings shall be composed of an interwoven fibrous structure thoroughly impregnated with a bituminous compound. The wall of the pipe shall be dense and homogeneous, without seams or laminations, and with a smooth interior surface free of obstructions and rough or flaky areas. Bends and fittings shall be of the same material as the pipe, or of a material having equal or better physical and chemical characteristics.

3.2 Pipe and fittings shall use either of the following joint systems:

3.2.1 *Type TJ Joints*—Pipe and fittings shall be provided with accurately machined or molded tapered joints, and a taper-sleeve coupling shall be provided for each length of pipe and for each fitting where applicable. The slope of the taper in both pipe and coupling shall be 2° (4° included angle) (see Fig. 1).

3.2.2 *Type BJ Joints*—Pipe and fittings shall have squarely cut ends, and a split-collar or internal coupling shall be provided for each length of pipe and for each fitting where applicable.

### 4. Chemical and Physical Requirements

4.1 *Chemical Resistance*—The specimen shall show no evidence of chemical reaction or deterioration of impregnant.

4.2 *Water Absorption*—The maximum water absorption shall be 2 % of the original weight, calculated to the nearest 0.1 %.

4.3 *Kerosine Resistance*—Specimens shall meet the dry crushing strength requirements specified in 4.6.

4.4 *Heat Resistance*—The heat shall not cause a weight loss over 1 % in the specimen due to exudation of the impregnant.

4.5 *Resistance to Flattening*—The decrease in diameter shall be not more than 3 %.

4.6 *Crushing Strengths*—The requirements for dry and wet crushing strengths shall be not less than 11.7 kN/m (800 lbf/ft) with a maximum deflection of 13 mm (0.5 in.).

### 5. Dimensions

5.1 *Type TJ Pipe and Couplings*—The dimensions of pipe and couplings shall be as specified in Fig. 1.

5.2 *Type BJ Pipe and Collars*—The inside diameter and wall thickness of Type BJ pipe shall be identical to Type TJ pipe (see Fig. 1), but the pipe shall be finished with square cut butt ends, and a split-collar or internal coupling shall be provided for each pipe length.

5.3 *Bore*—The bore shall be straight and circular in cross section as determined by passing a 1-m (40-in.) long mandrel, 6.4 mm ( $\frac{1}{4}$  in.) smaller in diameter than the nominal diameter of the pipe, freely through the bore of the pipe.

5.4 *Perforations*—The perforations in both Type TJ and Type BJ pipe shall be circular,  $15.9 \pm 1.6$  mm ( $\frac{5}{8} \pm \frac{1}{16}$  in.) in diameter and arranged in two rows parallel to the axis of the pipe. The perforations shall be spaced approximately 76 mm (3 in.) center to center along the rows. These rows may be 90 to 125° apart.

### 6. Sampling

6.1 From each lot to be tested or fraction thereof representing one size of product, select at random a number of lengths equivalent to one half the cube root of the total number of lengths included in the lot, except that in lots of 1000 lengths or less, five lengths shall be taken. If one half the cube root, as calculated, proves to be a fractional number, express it as the next higher whole number. Test specimens shall not include damaged pipe. Tapered joints shall not be included.

### 7. Test Methods

7.1 Determine compliance with the requirements of this specification in accordance with Methods D 2314.

7.1.1 *Resistance to Flattening*—The flattening load shall be 1.17 kN/m (80 lbf/ft).

7.1.2 *Crushing Strengths*—Use the flat parallel plate loading surfaces.

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee D-8 on Roofing, Waterproofing, and Bituminous Materials and is the direct responsibility of Subcommittee D08.16 on Bituminized Fiber Pipe.

Current edition approved Feb. 1, 1988. Published April 1988. Originally published as D 2312 - 64 T. Last previous edition D 2312 - 77 (1981).

<sup>2</sup> Annual Book of ASTM Standards, Vol 04.04.