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Standard Specification for PERFORATED, HOMOGENEOUS BITUMINIZED FIBER PIPE FOR AIRPORT AND HIGHWAY DRAINAGE¹

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1. Scope

1.1 This specification covers homogeneous perforated bituminized fiber pipe, couplings, joints, and fittings used in subsurface airport, highway, and similar drainage.

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

2. Applicable Document

2.1 ASTM Standard:

D 2314 Methods of Testing Homogeneous Bituminized Fiber Pipe²

3. Materials and Manufacture

3.1 Pipe shall be composed of a reinforcing interwoven fibrous structure thoroughly impregnated with a durable bituminous compound. The wall of the pipe shall be without seams or laminations and the bore shall have a smooth surface free from obstructions and rough, flaky areas. Couplings 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 *Joint Systems*—The pipe is furnished in two joint systems as follows:

3.2.1 *Type TJ* has tapered male ends on the pipe and tapered female couplings to match. The tapers shall be accurately machined or molded. A coupling shall be provided for each length of pipe and for each fitting. The slope of all tapers shall be 2 deg (4 deg included angle) (see Fig. 1).

3.2.2 *Type BJ* has squarely cut ends on both pipe and fittings. An internal-insertion coupling shall be provided for each length of pipe and for each fitting (see Fig. 2).

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 Table 1.

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 are given in Table 1.

5. Dimensions

5.1 Dimensions of pipes, couplings, and joints of the specified nominal sizes are shown in Tables 3 and 4 and in Figs. 1 and 2. For a given pipe size, the inside diameter and wall-thickness dimensions of Types TJ and BJ are the same.

5.2 *Bore*—The bore of a pipe shall be straight and circular in cross section, as determined by the unobstructed passage of a 1-m (40-in.) long mandrel 6.4 mm ($\frac{1}{4}$ in.) smaller

¹ 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.

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² *Annual Book of ASTM Standards*, Vol 04.04.