



Standard Specification for Non-Asbestos Fiber-Cement Conduit¹

This standard is issued under the fixed designation C 1448; 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 (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This specification covers non-asbestos fiber-cement conduit for use in electric-power systems and communication systems. The service is for both underground and exposed conditions.

1.2 The values stated in SI units are to be regarded as the standard. The values stated in parentheses are provided for information only.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

C 150 Specification for Portland Cement²

C 500 Test Methods for Asbestos-Cement Pipe³

C 595 Specification for Blended Hydraulic Cements²

C 1154 Terminology for Non-Asbestos Fiber-Reinforced Cement Products³

2.2 Military Standard:

MIL-STD-129 Marking for Shipment and Storage⁴

2.3 Federal Standard:

No. 123 Marking for Domestic Shipment (Civilian Agencies⁴)

2.4 Other Standards:

Uniform Freight Classification Rules⁵

National Motor Freight Classification Rules⁶

3. Terminology

3.1 *Definitions*—Refer to Terminology C 1154.

3.1.1 *conduit, n*—fiber-cement pipe used to protect wires for electric-power or communication systems, for both underground and exposed situations.

¹ This specification is under the jurisdiction of ASTM Committee C-17 on Fiber-Reinforced Cement Products and is the direct responsibility of Subcommittee C17.02 on Non-Asbestos Fiber-Cement Products.

Current edition approved Nov. 10, 1999. Published January 2000.

² *Annual Book of ASTM Standards*, Vol 04.01.

³ *Annual Book of ASTM Standards*, Vol 04.05.

⁴ Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

⁵ Available from the Uniform Classification Commission, Room 1106, 222 S. Riverside Plaza, Chicago, IL 60606.

⁶ Available from National Motor Freight Inc., 1616 P St., NW, Washington, DC 20036.

3.1.2 *coupling*—component made from a larger diameter pipe of the same type or Type II and of the same class or a higher class, or produced otherwise to yield at least equal performance, for joining fiber-cement pipe that when properly installed, forms a silt-tight joint, allows alignment corrections and slight changes in direction, and provides an assembled joint equivalent in serviceability and strength to the pipe sections.

3.1.3 *fittings*—fittings such as adapters, reducers, increasers, bends, and bell ends, for use in laying fiber-cement conduit as described in Section 5 and made to such dimensions as will provide equivalent strength and silt-tight joints when assembled with the conduit.

3.1.4 *lot*—lot as used herein is defined as each 1000 lengths of conduit or less, of a given class, type, and size manufactured on one machine during a 24-h period.

4. Classification

4.1 The classes of conduit shall be as follows:

4.1.1 *Class B*—Intended for use encased in concrete after installation, and

4.1.2 *Class C*—Intended for use without concrete encasement, or for exposed services.

4.2 The types of conduit shall be known as Type I and Type II corresponding to the chemical requirements given in Section 6 of this specification. For a more thorough understanding and as a guide to the chemical resistance of fiber-cement conduit, reference is made to Test Methods C 500.

NOTE 1—To assist the purchaser in choosing the type of conduit most suitable for his use, the following descriptions of usage may be considered:

4.2.1 *Type I*—For use where nonaggressive water and soil of moderate sulfate content are expected to come in contact with the conduit, and

4.2.2 *Type II*—For use where moderately aggressive water or water and soil of high sulfate content, or both, are expected to come in contact with the conduit.

4.3 The conduit shall be furnished in 40, 50, 75, 100, and 150-mm (1.5, 2, 3, 4, 5, and 6-in.) nominal sizes and shall have a circular cross section.

5. Materials and Manufacture

5.1 Fiber-cement conduit shall be composed of an intimate mixture of an inorganic hydraulic binder (see Specification C 150) or a calcium silicate binder (see Specification C 595)