



Designation: C 444 – 03

Standard Specification for Perforated Concrete Pipe¹

This standard is issued under the fixed designation C 444; 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.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope

1.1 This specification covers perforated concrete pipe intended to be used for underdrainage.

1.2 A complete metric companion to Specification C 444 has been developed—C 444M; therefore, no metric equivalents are presented in this specification.

2. Referenced Documents

2.1 ASTM Standards:

C 822 Terminology Relating to Concrete Pipe and Related Products²

3. Terminology

3.1 *Definitions*—For definitions of terms relating to concrete pipe, see Terminology C 822.

4. Classification

4.1 Pipe manufactured according to this specification shall be of two classes known as Type 1 and Type 2, which cover two arrangements of perforations to be used with pipe manufactured according to any of the standard specifications for plain or reinforced concrete pipe, and any of the classifications within those standard specifications.

4.1.1 Type 1 perforated pipe shall have circular perforations conforming to 6.1 and Table 1.

4.1.2 Type 2 perforated pipe shall have slotted perforations conforming to 6.2 and Table 2.

4.1.3 It is intended that perforated pipe shall be specified by reference to this specification and the specification for the type and class of pipe desired.

NOTE 1—*Example* “Perforated concrete pipe shall conform to the requirements of Specification C 444 Type 2, and all applicable requirements of Specification C 14, Class 2.”

5. Basis of Acceptance

5.1 The acceptability of the pipe shall be determined by the results of all applicable tests (Note 2) prescribed for the type

¹ This specification is under the jurisdiction of ASTM Committee C13 on Concrete Pipe and is the direct responsibility of Subcommittee C13.01 on Nonreinforced Concrete Sewer, Drain, and Irrigation Pipe.

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² *Annual Book of ASTM Standards*, Vol 04.05.

TABLE 1 Number of Rows of Perforations Required

Internal Designated Diameter	Rows of Perforations
in.	
4	4
6	4
8	4
10	6
12	6
14	6
15	6
16	6
18	8
20	8
21	8
24	8
27 and larger	space rows approximately 6 in.

and class of pipe specified, and by inspection to determine whether the pipe conforms to this specification as to design and freedom from defects.

NOTE 2—It is intended that all tests will be applicable except those having to do with permeability and the hydrostatic test.

6. Perforations

6.1 *Type 1*—Perforations shall be circular, not more than 5/16 in. or less than 3/16 in. in diameter, and arranged in rows parallel to the axis of the pipe. Perforations shall be 3 in. center-to-center, along rows. The spigot or tongue end shall not be perforated for a length equal to the depth of the socket, or depth

TABLE 2 Requirements for Length and Spacing of Slots

Internal Designated Diameter	Slot Length	Slot Spacing ^A
in.	in.	in.
4	1	3
6	1½	3
8	2	4
10	2	4
12	3	6
14	3	6
15	3	6
16	3	6
18	3	6
20	3	6
21	3	6
24	3	6
27 and larger	4	6

^ASee 6.2 for exceptions for plain-end pipe.