Designation: C1417 – 15

Standard Specification for Manufacture of Reinforced Concrete Sewer, Storm Drain, and Culvert Pipe for Direct Design[1]

This standard is issued under the fixed designation C1417; 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 the manufacture and acceptance of precast concrete pipe designed to conform to the owner's design requirements and to ASCE 15 or an equivalent design specification.

1.2 This specification is the companion to SI Specification C1417M; therefore, no SI equivalents are presented in this specification.

2. Referenced Documents

2.1 *ASTM Standards:*[2]

A615/A615M Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement

A706/A706M Specification for Deformed and Plain Low-Alloy Steel Bars for Concrete Reinforcement

A1064/A1064M Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete

C33/C33M Specification for Concrete Aggregates

C76 Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe

C150/C150M Specification for Portland Cement

C260/C260M Specification for Air-Entraining Admixtures for Concrete

C494/C494M Specification for Chemical Admixtures for Concrete

C497 Test Methods for Concrete Pipe, Manhole Sections, or Tile

C595/C595M Specification for Blended Hydraulic Cements

C618 Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete

C655 Specification for Reinforced Concrete D-Load Culvert, Storm Drain, and Sewer Pipe

C822 Terminology Relating to Concrete Pipe and Related Products

C989/C989M Specification for Slag Cement for Use in Concrete and Mortars

C1017/C1017M Specification for Chemical Admixtures for Use in Producing Flowing Concrete

C1116/C1116M Specification for Fiber-Reinforced Concrete

C1602/C1602M Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete

2.2 *Other Standards:*

ASCE 15 Standard Practice for the Direct Design of Buried Precast Reinforced Concrete Pipe Using Standard Installations (SIDD)[3]

ACI 318 Building Code Requirements for Reinforced Concrete[4]

3. Terminology

3.1 *Definitions:*

3.1.1 For definitions of terms relating to concrete pipe, see Terminology C822.

3.1.2 *group of pipe sections, n*—each day's production run of pipe sections of a single concrete strength for a specific project.

3.1.3 *lot of pipe sections, n*—total of the number of groups of pipe sections of a single concrete strength produced for a specific project.

3.1.4 *running average, n*—average concrete compressive strength of all groups of pipe sections of a single concrete strength produced for a specific project, generally determined as each group is tested.

4. Basis of Acceptance of Design

4.1 *Manufacturing Design Data*—The manufacturer shall submit the following manufacturing design data for the concrete pipe to the owner for approval.

4.1.1 Pipe wall thickness.

[1] This specification is under the jurisdiction of ASTM Committee C13 on Concrete Pipe and is the direct responsibility of Subcommittee C13.05 on Special Projects.

Current edition approved Oct. 1, 2015. Published October 2015. Originally approved in 1998. Last previous edition approved in 2014 as C1417 – 14ε1. DOI: 10.1520/C1417-15.

[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

[3] Available from American Society of Civil Engineers (ASCE), 1801 Alexander Bell Dr., Reston, VA 20191, http://www.asce.org.

[4] Available from American Concrete Institute (ACI), P.O. Box 9094, Farmington Hills, MI 48333-9094, http://www.aci-int.org.

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